

Refrigeration & Air-conditioning *Business*

MAY 1958

This is our **NEW NAME**
— turn the page and read
what it means to **YOU!**

STEVENS RICE
UNIVERSITY MICROFILMS
313 NORTH FIRST ST
ANN ARBOR MICH 48106 RIA



for you
**THERE'S MONEY IN
AUTOMATIC ICE-MAKERS**

FOR A CHECK LIST OF 30 PLACES
YOU CAN SELL THEM—SEE PAGE 58

DESIGNED TO HELP YOU SELL



AN INDUSTRIAL PUBLISHING CORPORATION MAGAZINE

**An
Open
Letter
to
Our
Readers**

Turn back and take another look at the front cover of this magazine. You are now reading the first issue of Refrigeration & Air-conditioning BUSINESS.

This is a new name, but it's not a new magazine. It's the same magazine that has been published continuously since 1944, first as The Refrigeration Industry and then for the past nine years as Commercial Refrigeration & Air Conditioning. The publisher is the same. The staff is the same. The policies and format are the same.

Over the years we have always tried to keep our editorial approach and content closely keyed to the expanding interests of our readers. Now we have brought the name in line, too.

Refrigeration & Air-conditioning BUSINESS will continue to be edited for *you*—regardless of where you live or what your business background has been—just as long as you're making your living in any segment of the year-round air-conditioning or commercial refrigeration field.

Our business is your business. That's why Refrigeration & Air-conditioning BUSINESS will continue to be *your* magazine.

..... **THE EDITORS**

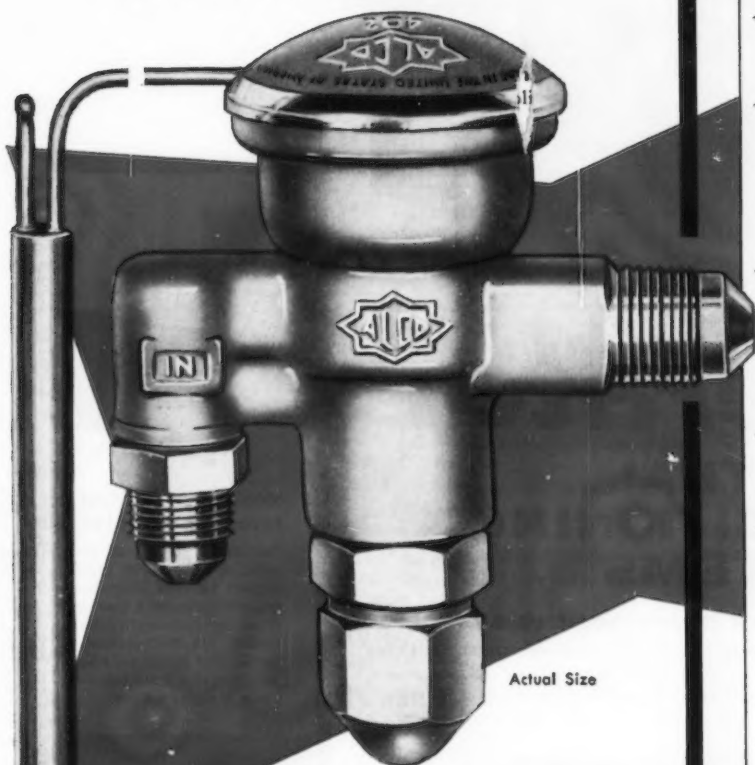
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402

THERMO® VALVES

THE SMALL-FIXTURE VALVE FOR ALL FIXTURES



FIELD PROVEN MODELS FOR ALL THESE CAPACITIES:

FREON-12 • 1/4, 1/2 and 1 Ton
FREON-22 • 1/2, 3/4 and 1-1/2 Tons
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✓✓ IF THERE'S ROOM FOR YOUR HAND...
THERE'S ROOM FOR AN ALCO 402

These are your benefits:

- ✓ LIQUID CHARGED—Install in any position.
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- ✓ CAPILLARY AT SIDE—Allows more head room for mounting.



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- BUY QUALITY
- BUY ALCO

7804

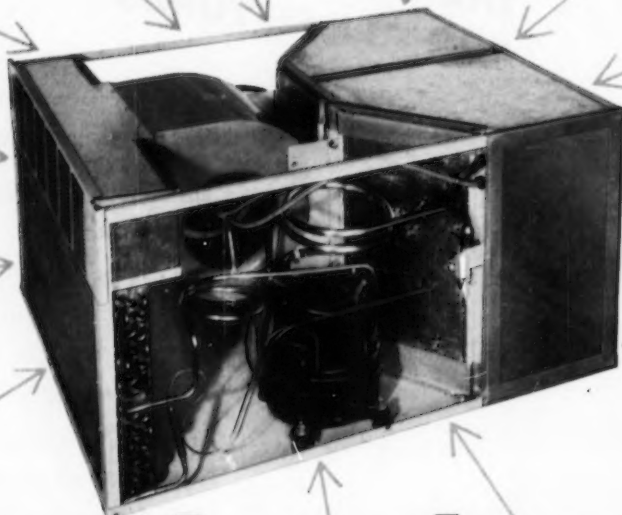
Call your Alco wholesaler—Write for Specifications Bulletin No. 402.

ALCO VALVE CO.

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The one complete line of refrigerant controls: Thermostatic Expansion Valves • Refrigerant Distributors
Solenoid Valves • Suction Line Regulators • Flooded Evaporator Controls and Reversing Valves
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Coolerator®

CENTRAL AIR CONDITIONING SYSTEMS

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COOLERATOR SLIDE-OUT CHASSIS

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COOLERATOR WEATHER-PROTECTED CONTROLS

Sealed against the elements, controls can't rust or short out, and on self-contained units, complete factory-wired controls make installation even *easier*. Just bring in power and low-voltage supplies.

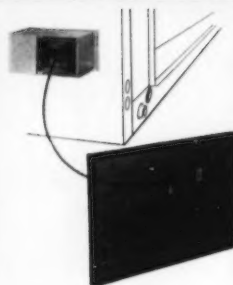
COOLERATOR 'PERMALIFE'® FINISH GIVES HIGH-PROTECTION

Cabinets are weather-protected with high-baked enamel. This UL tested finish withstands 2600-hour salt-spray tests. Exterior panels are *easily* removed for installation and service!

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...THE COOLERATOR WAY!**

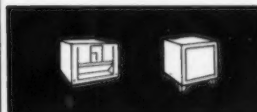


Coolerator
Finest in Home Comfort Appliances
COOLERATOR DIVISION
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COOLERATOR EXCLUSIVE Lectrofilter® SELLS ITSELF!

This unique development has impact as an important health feature! Exclusive Lectrofilter generator is standard equipment on all self-contained central systems. The electrostatically-charged filter collects and holds tiny grains of dust and pollen—a boon to allergy sufferers.



COOLERATOR 4 h.p. SELF-CONTAINED SLIDE-OUT CHASSIS

Self-Contained models
 2, 3 and 4 h.p.
 Remote models—3, 4 and 5 ton.

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COVER: Ever sell an automatic ice maker to a butcher shop? Or a gas station? Or a fishing camp? If not, you've been passing up some good bets for profitable business. On page 59 you'll find a checklist of more than 30 ice maker prospects.

FEATURES

INSIDE FRONT COVER — AN OPEN LETTER TO OUR READERS

Here's why Commercial Refrigeration & Air Conditioning magazine is no more

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Service is a solid foundation for any merchandising program

56 THIS DISTRIBUTOR STAGES A TRADE SHOW FOR HIS DEALERS

Educational forums are effectively combined with product displays

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Check off your customers on this list of more than 30 types of prospects

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A false ceiling completely conceals this air-conditioning job

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An agency can help build your profits — or just cost you money

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A form for use from customer call to posting of accounts receivable

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Sometimes "just patch it up" calls lead to big equipment installations

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Plastic pipe makes possible a convertible recreation area

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You'll sell more restaurant jobs if you use every square inch of space

75 10 STEPS FOR PATCHING FREEZER FLOORS IN SERVICE

It's tricky, but it can be done. Here's how to go about it

78 HOW TO USE ACCOUNTING AS A TOOL OF BUSINESS CONTROL

This break-even chart will help you keep the sheriff away from the door

DEPARTMENTS



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REFRIGERATION...

IT CAN NEVER BE BETTER
THAN WHAT YOU ~~PUT INTO IT~~
TAKE OUT OF!

Whether it's a Freezer, Refrigerator or Air Conditioning equipment — ultimate performance inevitably reverts back to the Vacuum Pump and what it did for the system. The question is not whether you can "get by" with anything less than KINNEY Pumps . . . it's what you lose by trying to!

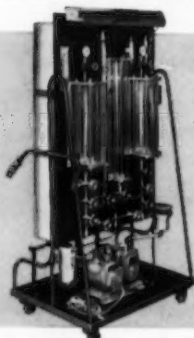
BACK UP YOUR PRODUCT, SALES & SERVICE WITH

Kinney®

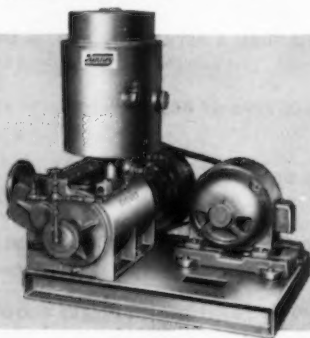
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KINNEY HIGH VACUUM provides definite advantages that make the difference . . . a clean, dry Vacuum down to 10 microns or less . . . quickly, economically, positively. Your KINNEY Pump is a marvel of dependability, calling for a minimum of maintenance — and, day after day and every day you can rely upon it to give you unfaltering service.

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KINNEY KDH-130 Single-stage Duplex Mechanical Pump provides free air displacement of 131 CFM and ultimate pressures to 10 microns (McLeod Gauge).

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- ☐ KINNEY HIGH VACUUM PUMPS
☐ KINNEY HIGH VACUUM CHARGING EQUIPMENT

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Circle No. 16 on Reader Service Card

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Business
formerly Commercial Refrigeration & Air Conditioning

published monthly by

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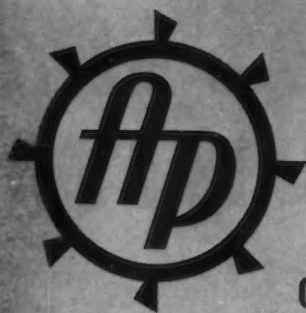
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REFRIGERATION & AIR-CONDITIONING



one source

**for all thermostatic
expansion valve needs**

Single out A-P for triple duty

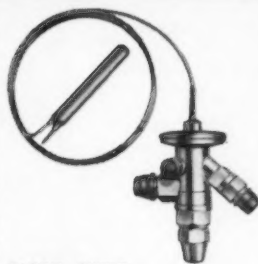
A-P's complete capacity line of thermostatic expansion valves ($\frac{1}{4}$ to 25 tons, R-12) is geared to perform on:

1. **Most commercial applications** where pressure limit is not required. Standard liquid charged TXVs may be applied universally. Special liquid charges are available for critical applications.
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3. **Low temperature applications** where pressure limit is required. Use A-P liquid charged valves with adjustable pressure limit.

These valves complement industry's most complete line of refrigeration and air conditioning controls. Take advantage of this single source availability — your assurance of dependable performance.



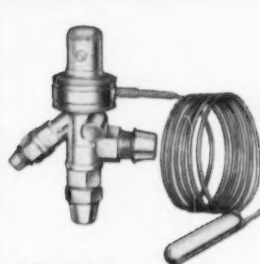
MODEL 206C
Fixed superheat. R-12, R-22 or Methyl. Capacity: $\frac{1}{4}$ thru $1\frac{1}{2}$ tons R-12.



MODEL 207DE
Adjustable superheat. External type equalizer. Capacity: $\frac{1}{2}$ thru 3 tons R-12. 1, 2, 3, 5 tons R-22.



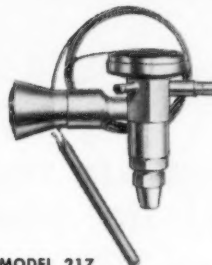
MODEL 207C
Adjustable superheat. R-12, R-22 or Methyl. Capacity: $\frac{1}{4}$ thru $1\frac{1}{2}$ tons R-12.



MODEL 209
Adjustable pressure limit and superheat. R-12, R-22 or Methyl. In $\frac{1}{4}$ thru $1\frac{1}{2}$ tons R-12.



MODEL 214
Adjustable superheat. 1, 2, 3 tons R-12. 2, 3, 5 tons R-22.



MODEL 217
Adjustable superheat. Solder connections. Capacity: 5, $7\frac{1}{2}$, $12\frac{1}{2}$ tons R-12; $7\frac{1}{2}$, 11, 19 tons R-22.



MODEL 218
Adjustable superheat. R-12 (16, 19, 25 tons). R-22 (25, 30, 40 tons). Available with pressure limit.



DISTRIBUTORS
Both flare and solder types. Capacities: flare type thru 3 tons R-12. Solder type thru 40 tons R-12.



CONTROLS COMPANY OF AMERICA

Manufacturers of A-P CONTROLS

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COOKSVILLE, Ontario • NIJMEGEN, Holland

Controls That Make Modern Living Possible

Write for Book E220 — gives complete data on A-P thermostatic expansion valves.

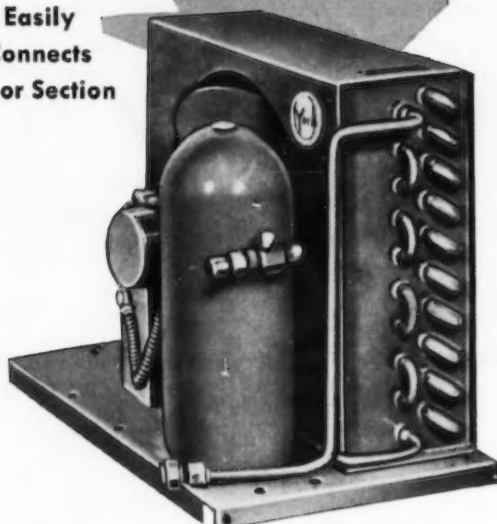
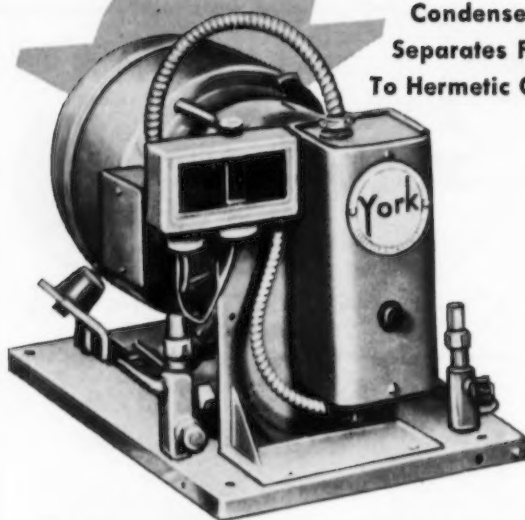


Exclusive **YORK** *FLEX-O-METIC* **CONDENSING UNITS**



COME IN 2 SECTIONS

Condenser Section Easily
Separates From or Connects
To Hermetic Compressor Section



SEPARATE SECTIONS SPELL OUT ALL THESE MONEY- SAVING BENEFITS FOR INSTALLING CONTRACTORS:

More flexibility! Compressor and condenser sections for varying models can be interchanged. So, your York Wholesaler will have the unit you need instantly available!

"Remote" installations now practical! Condenser section may be installed remotely from compressor section. Sections separate and/or connect easily...in minutes!


Installations are simpler! Compressor section is completely factory wired. Multiple compressor sections can be installed on racks with a single dry surface condenser circuited for each application to meet special needs. Rotolock Valve rotates 360° for easy piping...3 service valves, 2 with gauge ports, let you take high pressure readings at both compressor and receiver...low pressure reading at compressor.

Tri-Cooling—A York Exclusive available on all Very Low Temperature air-cooled or water-cooled units for applications as low as -50° F.



Complete line of York Flex-O-Metic Condensing Units in air-cooled, water-cooled and air-water-cooled models with sizes ranging from 1/3 to 7 1/2 HP. Contact your York Wholesaler for full particulars, or, write York Corp., Box 1272, York, Pa.

Your FUTURE and FORTUNE Now Lies With York!

YORK 
York Corporation, York, Pa.
Subsidiary of Borg-Warner Corporation

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REFRIGERATION & AIR-CONDITIONING



Break the **BARRIER** and close the sale



A service offered through subsidiaries of
Commercial Credit Company, Baltimore . . .
Capital and Surplus over \$200,000,000 . . .
offices in principal cities of the United States
and Canada

Most of your prospects need their cash reserves and usual lines of credit for current operations. Break through this financial barrier. Make it easier for the prospect to sign on the dotted line by including financing arrangements. **COMMERCIAL CREDIT's Refrigeration Plan** is backed by many years' experience in your industry—experience in handling financing for thousands of commercial refrigeration and air conditioning installations.

Let us show you how **COMMERCIAL CREDIT** experience and know-how saves you time and money . . . and helps you close sales with less delay. Call the nearest **COMMERCIAL CREDIT** office or write **COMMERCIAL CREDIT CORPORATION**, 300 St. Paul Place, Baltimore 2, Md.

Make your proposals complete . . . include financing with COMMERCIAL CREDIT PLAN

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Mr. Mulligan solves his credit problem



BOSS, THERE'S A BIG SHIPMENT OF GAUGES DUE IN TOMORROW—C.O.D.!

GOSH! I WONDER IF WE CAN PAY FOR IT NOW?



NO HELP HERE

GUESS I'LL HAVE TO SELL MY CAR...



MR. MULLIGAN!—SELLING YOUR CAR?

YES, WE NEED THE CASH TO MEET A C.O.D.



WHAT YOU REALLY NEED IS A COMPLETE AIR CONDITIONING AND REFRIGERATION WHOLESALER; THEN YOU WON'T NEED SO MUCH CASH

HUH? I WON'T?



RIGHT! YOU CAN BUY IN SMALLER QUANTITIES, AND GET SMALLER BILLS. IF YOU WANT TO PAY LATER, WE KNOW YOUR CREDIT REPUTATION

MULLIGAN Refrigerating Co.



ABC REFRIGERATION SUPPLY? I NEED A COUPLE OF XYZ GAUGES. I'LL PAY YOU WHEN THE JOB'S DONE. OK?

SURE. WE'LL SEND THEM RIGHT OVER

PROVED DEPENDABLE... When you need a refrigerant, be sure to see your complete air conditioning and refrigeration wholesaler... and then be sure you *always* ask for "Freon"*. Choose "Freon" and you choose a refrigerant backed by more than 26 years of Du Pont technical and manufacturing leadership. Choose "Freon" and you choose a refrigerant that sets the industry's standard for purity and dryness.

Buy where you see this sign...



FREON REFRIGERANTS

BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

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*"Freon" is Du Pont's registered trademark for its fluorinated hydrocarbon refrigerants.

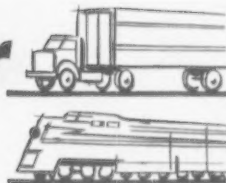
REFRIGERATION & AIR-CONDITIONING

MUELLER BRASS CO.

Drymaster

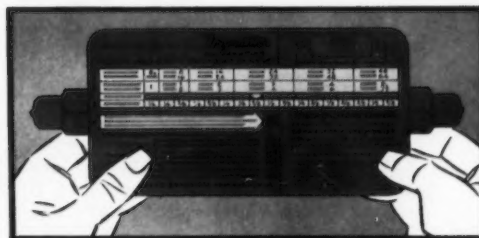
FILTER-DRIERS

**are now available for
immediate delivery!**



**we refused to compromise on quality . . . we wanted to
give you only the very best . . . you'll be glad you waited
. . . for this amazing new Drymaster—the only Filter-Drier
with guaranteed "BALANCED PERFORMANCE"**

This handy slide-guide is yours for the asking. It provides a quick, easy way to select the correct Drymaster Filter-Drier for every installation. Shows at a glance—the drying capacity, filtering area, flow ratings and over-all length. Write for your slide-guide today—or pick one up at your wholesaler's.



246

MUELLER BRASS CO.

PORT HURON 14, MICHIGAN

BUSINESS • MAY 1958

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you get

MORE FOR YOUR MONEY MORE TO CHOOSE FROM

with

McQuay

REFRIGERATION PRODUCTS

WHEN YOU USE McQuay refrigeration products you not only get the finest, but you get more for your money. And, because the McQuay line is the most complete in the industry, you have more models and sizes to choose from—a product specifically designed for your every need. Capitalize on McQuay experience and know-how. See your McQuay wholesaler, or write McQuay, Inc., 1643 Broadway St. N. E., Minneapolis 13, Minnesota.



LOW TEMPERATURE PRODUCT FREEZERS



CILING MOUNTED ZEROPAK
The low temperature storage cooler for limited floor space applications. Made in wide range of sizes.

ZEROPAK SPEED TUNNEL FREEZER—Combination sharp freezer and low temperature storage cooler. Available in four models to balance with 1½, 2, 3 and 5 H.P. low temperature condensing units.

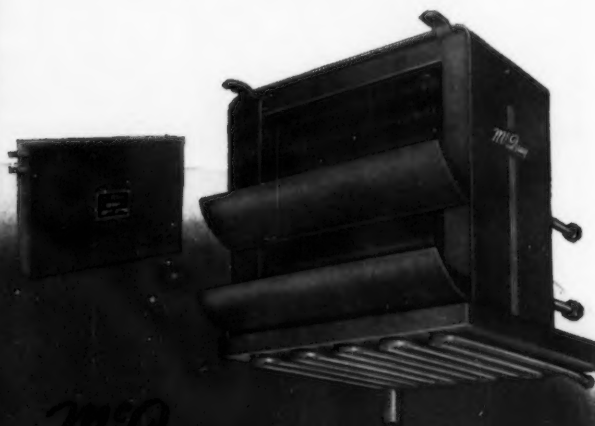
HIGH TEMPERATURE PRODUCT COOLERS



CILING MOUNTED PRODUCT COOLER—Six models for cold storage applications.



FLOOR MOUNTED PRODUCT COOLER—Six models to many models or large capacity product cooling.



McQuay

ZEROFROST SYSTEM

The McQuay ZeroFrost System is a low temperature defrost system, and is primarily designed specifically for low temperature applications. It is fast, efficient, and extremely simple both in operation and installation. The McQuay Reflog, a low-pressure contact heated re-evaporator, functions as a heat exchanger, to separate the condensed liquid from the defrosting coil. The solenoid valve, actuated by the relog, allows the liquid to flow through the coil and into the evaporator, thus through the Reflog. The ZeroFrost System is available in eight sizes.

The McQuay ZeroFrost System is a low temperature defrost system, and is primarily designed specifically for low temperature applications. It is fast, efficient, and extremely simple both in operation and installation. The McQuay Reflog, a low-pressure contact heated re-evaporator, functions as a heat exchanger, to separate the condensed liquid from the defrosting coil. The solenoid valve, actuated by the relog, allows the liquid to flow through the coil and into the evaporator, thus through the Reflog. The ZeroFrost System is available in eight sizes.

McQuay
Means Quality



McQuay ZEROFROST SYSTEM



McQuay UNIT COOLERS

PACEMAKER UNIT COOLER — Compact unit for product cooling. Adjustable louvers.

RADIAL UNIT COOLER—Eight sizes to fit the requirements of walk-in coolers and cold storage rooms. Styled for minimum height as required in low ceiling applications.

TWO WAY UNIT COOLER—A wide range of capacities in five sizes. Units may be wall or ceiling mounted.



AIR COOLED CONDENSERS



MODEL "AD" AIRCON—2, 3 and 5 ton remote type air cooled condensers with direct driven propeller fans.



MODEL "AR" AIRCON—Remote type residential condensers using centrifugal blowers. Available in 2, 3, 5 and 7½ ton nominal capacities.

MODEL "AB" AIRCON—Remote, windowless condensers available in eight sizes—9, 11, 15, 20, 25, 30, 40 and 50 ton nominal capacities.



the NEW SPACE MISER

Another FIRST BY

McQuay



Three high temperature models for reach-in refrigerators. Minimum space, attractive grained aluminum cabinets, ease of installation are featured. Three low temperature models for reach-in freezers are fabricated from grained aluminum and equipped with built-in heat exchangers. Designed for economical hot gas defrosting with oil-free coil bonded to concealed drain pan.

RESIDENTIAL EVAPORATORS



VERTICAL AIR FLOW—Available in 2, 3, 4, 5 and 7½ ton nominal capacities. Designed to mount above or below warm air furnaces.



HORIZONTAL AIR FLOW—Available in 2, 3, 4, 5 and 7½ ton nominal capacities. Designed to mount in horizontal duct work.

McQuay INC.



**AIR CONDITIONING
HEATING
REFRIGERATION**

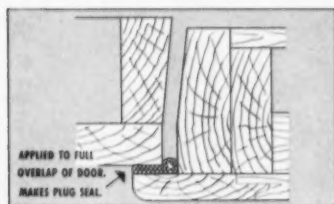
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Exclusive JAMISON features make the Series "50" the best buy in cold storage doors



Exclusive JAMISON hardware

- Adjustable hinges and fastener assure tight seal
- Rugged cast construction
- Patented heavy duty design
- Hot dip galvanized finish. Heavy zinc coating gives maximum protection

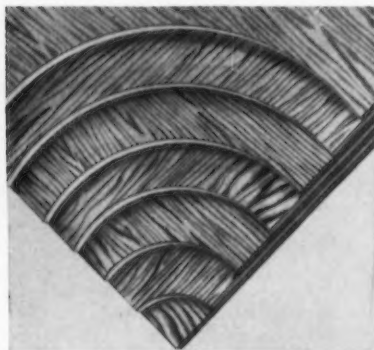


JAMISON gasketing

- Lo-Temp Gasket—soft, resilient with protective jacket
- Sillseal—flexible, abrasion and grease resistant

Box girder construction

- 5 times more rigid—prevents warping—assures tight seal
- Internal bracing eliminated—maximum insulation
- 7 times stronger—extra durability under hard service



Exclusive boat hull plywood

- Finest quality obtainable
- Water-proof plastic bond
- 7-ply front, 5-ply back panel

For complete data on the Jamison Series "50" Door write to Jamison Cold Storage Door Co., Hagerstown, Md. Ask for Bulletin #3.



JAMISON

COLD STORAGE DOORS

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WHY GAMBLE

...with personal safety?

...with costly equipment?

...with customer confidence?

Don't take chances—
use fast, effective, safe



CALGON SCALE REMOVER AND CALGON ECONOMY POWDERED ACID

Why take chances with your own safety, with costly equipment, and run the risk of losing good customers? Always use safe, effective Calgon Scale Remover when cleaning cooling tower systems. It comes in dry form—is readily dissolved—and has a pH color indicator that helps tell you how

much to use, and also when the system is clean.

New Calgon Economy Powdered Acid is a special formulation for low cost cleaning of cooling water systems. Above all, both of these Calgon products are safe to use—safe for you and for the equipment.

Calgon Water Treatment Products
save you time and money—use the best

MICROMET® PLATES—inhibit further scale formation—provide low-cost, easy-to-use, continuous protective treatment.

CALGON ALGAECIDE—positive action kills algae and slime growths.

BANOX® quickly forms a protective film on metal

surfaces. Should be used at spring start-up, after acid cleaning, and at shut-down.

CALGON GAS LEAK DETECTOR—for fast detection of refrigerant leaks.

CALGON LIQUID ICE MACHINE CLEANER—for fast, safe scale removal from ice making equipment.

CALGON COMPANY



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For all refrigerant and air conditioning needs . . .

PENNSALT'S COMPLETE LINE OF CONTROLLED-PROCESS ISOTRON REFRIGERANTS

in the quantities you want from a pound to a tank car

ISOTRON REFRIGERANT 11 . . . low vapor pressure refrigerant. Available in 100- and 200-lb. non-returnable drums, ton containers, tank trucks and tank cars.

ISOTRON REFRIGERANT 12 . . . moderately high vapor pressure refrigerant for most types of refrigeration and air conditioning equipment regardless of size. Available in 15-oz. cans, 10-, 25- and 145-lb. cylinders, ton containers, tank trucks and tank cars.

New in the Line . . .

ISOTRON REFRIGERANT 22 . . . high vapor pressure refrigerant for use in room-size air conditioners, domestic freezers and many larger units. Available in 2-lb. cans, 9-, 22- and 125-lb. cylinders, ton containers, tank trucks and tank cars.

ISOTRON REFRIGERANT 113 . . . very low vapor pressure refrigerant for multi-stage cooling systems using centrifugal compressors and in brine chilling systems. Available in 100- and 200-lb. non-returnable drums, ton containers, tank trucks and tank cars.

ISOTRON REFRIGERANT 114 . . . moderately low vapor pressure refrigerant widely used in drinking water coolers. Available in 1-lb. cans, 10-, 25- and 150-lb. cylinders, ton containers, tank trucks and tank cars.

ISOTRON refrigerants meet or surpass all accepted industry standards. Get economy-priced, quality products. Order Isotron from your refrigeration wholesaler

... new dual-purpose

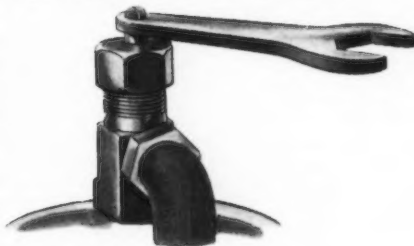
ISOTRON

Cylinder Wrench

Use the Isotron Wrench
On Cylinder Cap Fittings



Use the Isotron Wrench As
Cylinder Valve Stem Handle



You can get this useful, dual-purpose wrench **FREE** when you order Pennsalt Isotron from your distributor. One wrench given with *each* purchase of any size cylinder of Isotron Refrigerant 12 or Isotron Refrigerant 22. Offer—beginning April 1, 1958—good only while limited supply of wrenches lasts.

Isotron Department 578
PENNSALT CHEMICALS CORPORATION
Three Penn Center, Philadelphia 2, Pa.





"We give better service because we get better service with RCA 2-Way Radio"

**Says Glenn Patterson, Vice-President
Pioneer Ice Cream Division, The Borden Co.**

You can depend on RCA quality equipment to provide fine performance. Among the big "pluses" RCA offers are longer component life; low tube replacement cost; lower standby battery drain; "Split-Channel" readiness; Transistorized "Red Head" Microphone to transmit clear speech and fit the hand perfectly; RCA Service for reliable maintenance.

You expect the best and get the best when you come to the leader in radio for your mobile equipment. And the increased calls and extra profits that result means your 2-Way Radio soon pays for itself! Purchase or lease agreements available. Why wait another day?

*Just mail the handy coupon for pertinent facts about Radio
in the Service Business . . . and what it can mean to you.*



Above dispatcher is using RCA Miniradio base station equipment that combines microphone, controls and speaker in a single, attractively styled compact unit.



**RADIO CORPORATION
of AMERICA**

COMMUNICATIONS PRODUCTS
CAMDEN, N. J.

Radio Corporation of America
Communications Products
Dept. F-261, Building 15-1, Camden, N.J.

In Canada: RCA VICTOR Company Limited, Montreal

☐ Please send me booklet "How Service Organizations Increase Efficiency with RCA 2-Way Radio."

NAME _____ TITLE _____

COMPANY _____

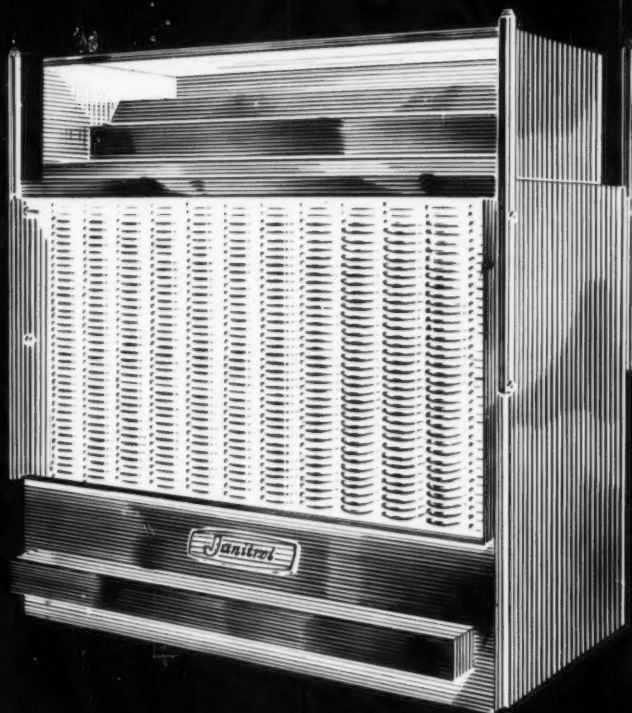
ADDRESS _____

CITY _____ ZONE _____ STATE _____

Circle No. 24 on Reader Service Card



A.I.A. 30-C-43

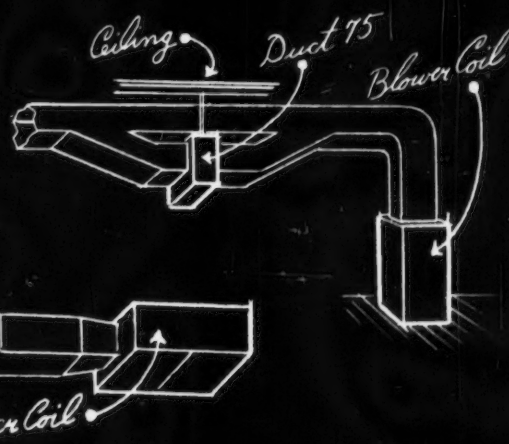
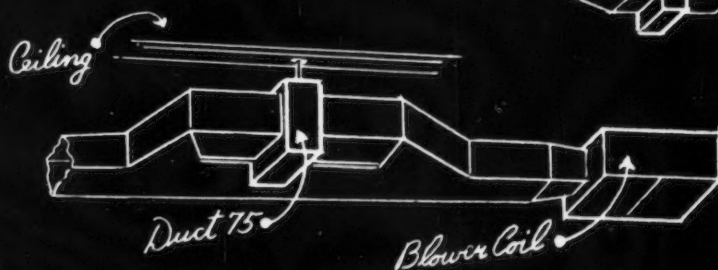
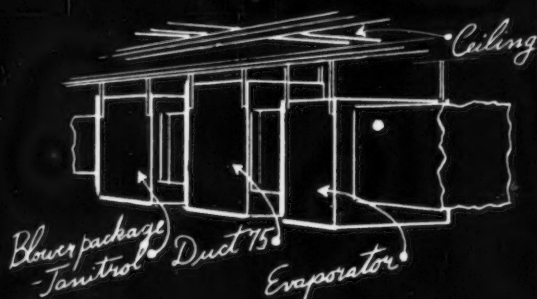


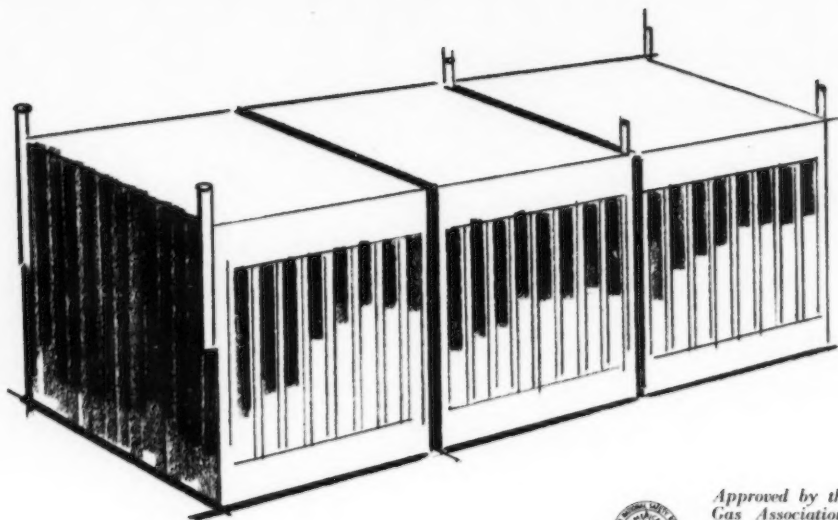
Versatile—to the Nth degree!

new JANITROL

duct 75 furnaces

for commercial—industrial heating and ventilating
and specially designed for use in year 'round systems.





Here now from Janitrol is a really versatile duct furnace . . . the revolutionary new Janitrol Series DUCT 75, bringing you new flexibility in heating system design and installation for all your commercial-industrial jobs.

These compact, easily-installed, "packaged" furnaces are furnished in unit capacities of 200,000 and 300,000 btu/hr. input. You can install them singly, or side-by-side in batteries of two or more to provide inputs from 200,000 to 2,000,000 btu or more in increments of 100,000 btu/hr. input, with individual controls for each unit.

New advanced design of the DUCT 75 provides for draft hood relief at front, and combustion air inlets at both front and back of each unit. Thus a number of units can be bolted together with sides in contact. This results in an assembly so rigid that the two supports at each end of the two-unit assemblies provide adequate support. (See fig. 1.) Pipe hangers designed to serve as connections for overhead suspension are reversible to form floor support legs. The threaded ends used for attaching to overhead supports accommodate pipe leg extensions for floor mounting.

The heat exchanger assembly in Janitrol DUCT furnaces are practically indestructible. The exclusive Multi-Thermex heating element assembly is internally and externally armored with a fire-fused protective coating to assure a tight, non-scaling heat exchanger that is resistant to corrosion and superior to either cast iron or conventional steel. This design has been thoroughly proved in over 1/2 million tubes used in the toughest commercial-industrial applications, over the past 10 years.

All in all, Janitrol's all-new Series DUCT 75 Furnaces provide heating-cooling system design flexibility and installation ease never before possible . . . enable you to "customize" commercial-industrial jobs to individual requirements at lowest possible cost. Get all the facts on these *really versatile* new furnaces from your Janitrol Representative.

JANITROL SERIES DUCT 75

Standard Equipment

- Armored Multi-Thermex Heat Exchanger
- Ampli-Fire Burners
- Draft Hood Field-reversible
- Automatic Recycling Pilot
- Low Voltage Solenoid Gas Valve with Transformer (230v, 60c)
- Casing finished in blue-gray baked enamel
- Pipe Hangers—ceiling suspension—field reversible for floor mounting
- Limit Control
- Gas Pressure Regulator
- Pilot Shutoff Valve
- Main Shutoff Valve



Approved by the American Gas Association—furnished for operation on natural, manufactured, mixed, LP and natural-LP (dual-fuel) gases.

The Complete Line of Janitrol Duct Heating Equipment



DUCT-75, the all-new Janitrol design described above. Two basic units combined for any job from 200,000 Btu/hr. up to several million.



DUCT-55, individual furnaces in attractive casings. Available in five sizes . . . 100,000; 125,000; 175,000; and 225,000 Btu/hr. inputs.



UNIT HEATERS, Model UCS, propeller-type ceiling-suspended, provide the lowest initial cost automatic heating. In 10 sizes, from 30,000 to 225,000 Btu/hr. inputs.



BCC, Blower Unit Heaters for use independently of central systems. Available with enclosed or exposed blowers with 300,000; 400,000 and 500,000 Btu/hr. inputs.



BLOWER PACKAGES designed for installation with minimum field assembly work. Series 75 has capacity range from 3,000 to 7,000 CFM; Series 135 has range from 6,000 to 13,500 CFM.

**■ PRESSURE DROP (RESISTANCE) AND TEMPERATURE RISE
AT VARIOUS FLOW RATES THROUGH SERIES DUCT-75**

SIZE 200

CFM	1330	1500	1600	2000	2250	2400	2800	3000	3200	3400	3600	3800	4000
Resistance Inches Water	.043	.050	.059	.086	.105	.12	.155	.175	.20	.222	.240	.252	.290
Temp. Rise ° F.	112	100	90	75	66	63	53	50	47	45	42	39	37

SIZE 300

CFM	2000	2250	2400	2800	3000	3200	3400	3600	3800	4000	4200	4500	4800	5100	5400	5700	6000
Resistance Inches Water	.043	.050	.059	.076	.086	.096	.11	.12	.13	.145	.155	.175	.20	.222	.240	.252	.290
Temp. Rise ° F.	112	100	90	80	75	70	65	63	59	56	53	50	47	45	42	39	37

Performance Tables

WITH DIFFERENT MOTOR-DRIVE COMBINATIONS

SERIES 75

†Filter Pr. Drop Inches W.C.	*C.f.m. Delivery	○Static Pressure															
		Free Delivery	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	
.040	3000						A-½	A-½	A-½	A-½	A-¾	A-¾	A-¾	C-1	C-1	C-1	
.05	3500						A-½	A-¾	A-¾	A-¾	D-1	D-1	C-1	C-1	C-1	C-1½	
.07	4000					A-¾	A-¾	D-1	D-1	D-1	D-1	C-1	C-1½	C-1½	C-1½	C-1½	
.08	4500				D-1	D-1	D-1	D-1	D-1½	D-1½	C-1½	C-1½	C-1½	C-1½	C-1½	C-1½	C-2
.10	5000			D-1	D-1	D-1½	D-1½	D-1½	D-1½	C-1½	C-1½	C-1½	C-2	C-2	C-2	C-2	C-2
.13	5500		D-1½	D-1½	D-1½	D-1½	D-1½	D-1½	C-2	C-2	C-2	C-2	E-3	E-3	E-3	E-3	
.15	6000	D-1½	D-1½	D-2	D-2	D-2	D-2	C-2	E-3	E-3	E-3	E-3	E-3	E-3	E-3	E-3	E-3
.18	6500	D-2	D-2	D-2	F-3	E-3	E-3	E-3	E-3	E-3	E-3	E-3	E-3	E-3			
.20	7000	F-3	F-3	F-3	E-3	E-3	E-3	E-3									
.23	7500	F-3	E-3	E-3													

SERIES 135

†Filter Pr. Drop Inches W.C.	*C.f.m. Delivery	○Static Pressure																
		Free Delivery	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	
.06	6000						A-¾	A-¾	A-¾	A-¾	D-1	C-1	C-1	C-1½	C-1½	C-1½	C-1½	
.07	6500						A-¾	A-¾	D-1	D-1	D-1	C-1	C-1½	C-1½	C-1½	C-1½	C-1½	
.08	7000					A-¾	A-¾	D-1	D-1	D-1	D-1	C-1½	C-1½	C-1½	C-1½	C-2	C-2	
.10	7500					D-1	D-1	D-1	D-1	D-1½	C-1½	C-1½	C-1½	C-1½	C-2	C-2	C-2	
.11	8000				D-1	D-1	D-1	D-1½	D-1½	D-1½	C-1½	C-1½	C-2	C-2	C-2	C-2	C-2	
.13	8500			D-1	D-1	D-1½	D-1½	D-1½	D-1½	C-1½	C-2	C-2	C-2	C-2	C-2	E-3	E-3	
.14	9000			D-1	D-1½	D-1½	D-1½	D-1½	D-1½	C-2	C-2	C-2	C-2	C-2	E-3	E-3	E-3	
.16	9500		D-1½	D-1½	D-1½	D-1½	D-1½	D-2	C-2	C-2	C-2	C-2	E-3	E-3	E-3	E-3	E-3	
.17	10000	D-1½	D-1½	D-1½	D-1½	D-1½	D-2	C-2	C-2	C-2	E-3	E-3	E-3	E-3	E-3	E-3		
.19	10500	D-1½	D-1½	D-1½	D-2	D-2	D-2	C-2	E-3	E-3	E-3	E-3	E-3	E-3	E-3			
.20	11000	D-1½	D-2	D-2	D-2	D-2	C-2	E-3	E-3	E-3	E-3	E-3	E-3					
.23	11500	D-2	D-2	D-2	D-2	E-3	E-3	E-3	E-3	E-3								
.24	12000	D-2	D-2	E-3	E-3	E-3	E-3	E-3	E-3									
.27	12500	F-3	E-3	E-3	E-3	E-3	E-3											
.28	13000	E-3	E-3	E-3	E-3													
.30	13500	E-3	E-3															

Bold type indicates standard motor and drive.

† Pressure drop through filters based on clean filters.

* Standard Air.

○ Static pressure of a system is the summation of all resistances including that of the duct system, heater, coils, etc.

**FOR YOUR CONVENIENCE,
SCALE TEMPLATES ARE
PRINTED ON THE LAST PAGE**



Templates 1/4" Scale

DUCT FURNACES

88-55



100-55



125-55



175-55



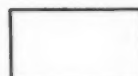
225-55



200-75



300-75



TOP VIEW



FRONT VIEW



SIDE VIEW

BLOWER PACKAGES

75



135

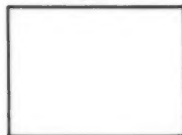


TOP VIEW

75



135



FRONT VIEW

75



135



SIDE VIEW

JANITROL®

HEATING & AIR CONDITIONING DIVISION
 Surface Combustion Corporation, Columbus 16, Ohio
 In Canada: Moffats Ltd., Toronto

as we see it...

What makes 'em buy? To try to find out, Thatcher Furnace Co. is using a program of "motivation research" to uncover consumer attitudes toward home heating systems.

Conducted by an independent market research firm under the direct supervision of a staff member of the Institute of Applied Psychology, the program is employing psychological techniques to ferret out more detailed information on consumer buying habits.

Aim of the project is not to amass specific information but to furnish guides for present sales activities and possible future research.

Results of the study, and sales suggestions based on it, will be turned over to Thatcher dealers.

* * *

Without comment, we'd like to present some excerpts from a talk on co-op advertising delivered to the Greater St. Louis Appliance Dealers Association by Irvin Davis, president of Clayton-Davis & Associates Advertising Agency. We think he makes some points that air-conditioning and commercial refrigeration dealers would do well to consider.

"... I cannot for the life of me see spending money . . . without a purpose. If you buy \$1000 worth of [advertising] space . . . you are paying \$1000 for it and it should have that much value and more to you.

"In co-op advertising there are two sides—the manufacturer's side and your side. The manufacturer is primarily interested in selling his particular product from any store. You can only benefit if the product is sold at your store.

"So many times I have seen identical ads lined up like soldiers in the same newspaper, advertising the same product, the only difference being the signatures. The manufacturers love this. Repetition draws attention and attention sells! But is it selling you? Not really!

"It's up to you to spend a little time developing ads that sell you as well as the manufacturer . . . it's going to

Continued on page 82



The only
pocket sized
snap-around
instrument in the
world that is
all 3 in one...

**OHMMETER
VOLTMETER
AMMETER**

only
\$52⁵⁰

Complete with ohmmeter
attachment, voltage test
leads and genuine cow-
hide leather case.

TESTS SOLENOIDS	TESTS FIXTURES FOR SHORTS	MAKES MOTOR WINDING TESTS
TESTS MOTOR CONTROLS	MAKES CONTINUITY TESTS	TESTS FOR OPENS
TESTS FLUORESCENT LIGHT FIXTURES	DETECTS LEAKY INSULATION	WILL DETECT SWINGING OPENS AND SHORTS
CHECKS SHORTED AND LEAKY FRACTIONAL H. P. CAPACITORS	CHECKS FUSES	CHECKS HI-RESISTANCE BETWEEN RELAY CONTACTS

NEW

**AMPROBE
RS-3**

Pyramid Instrument Corporation, Lynbrook, N. Y. In Canada: Atlas Radio Corp., 50 Wingold Ave., Toronto

Circle No. 14 on Reader Service Card

Wallace R. Williams has been named sales representative for



Kerotest Mfg. Co. to handle sales for the brass division in the company's west coast territory. He will cover the states of Washington, Oregon, California, Vancouver, British Columbia, Idaho, Utah, Nevada, and Arizona.

William J. Heggie, president of S. S. Fretz, Jr., Inc. Philadelphia, Pa., died recently after a brief illness. Heggie was born in Chicago, Ill. in 1900. He joined S. S. Fetz in 1933 and was elected president of that company in 1940.

Leonard Smith has been named to head the newly formed industrial division of Wickford Products, Inc.



The division will handle the sales of the company's air conditioning and furnace filters. Regional sales representatives for the new division are soon to be announced. Smith was formerly assistant to the president of Lightolier, and a sales industrial management consultant.

Three new assignments have been made by Trane Co. **James F. Hield** and **Robert R. Blackburn** have been promoted to managers of the Peoria, Ill., and Davenport, Iowa, sales offices, respectively. **Robert M. Cox** has been named a sales engineer at Trane's New York office. Hield has been sales engineer at the Davenport office for the past 10 years, the last six with its former sub-office in Peoria. Blackburn joined the firm in 1954 and was sales engineer in Davenport for the past two years. Cox has had 11 years in industrial and commercial refrigeration.

Two appointments have been announced by Wolverine Tube, Div. of Calumet & Hecla, Inc. **Mark A. Wallesz** has been named technical sales representative in Chicago and surrounding areas. **Eugene Hill** is a new aluminum sales specialist in the east-central sales district. Wallesz replaces Howard J. Luetzow, who takes over a similar position in the firm's New York-New England areas.

Promotion of **William M. Day** and **Gordon N. Gray** to vice presidents of Bryant Mfg. Co., division of Carrier Corp., has been announced. Day becomes vice president in charge of engineering and Gray assumes executive administration of all manufacturing. Both had been with Bryant as managers of their respective areas of operation. They will continue to work in Indianapolis.

Simpson Electric Co. has announced that **J. R. Whiteside**, executive vice president of that firm, has been made president.

William W. Wexler has been named manager of marketing for Taco Heaters, Inc. He will be responsible for coordinating and directing the company's marketing program. Before joining Taco, Wexler was advertising manager of Raytheon Mfg. Co.

Three new sales representatives have been announced by Larkin Coils, Inc. **Carl J. Bomanz** will represent the company in southern Wisconsin, Indiana, northern Illinois, and western Michigan. **O. R. Kreutziger** will cover Minnesota, Iowa, northern Wisconsin, North Dakota, and South Dakota. **Robert C. Smith**, will handle Texas, Oklahoma, and Arkansas.

Charles C. Grimes has joined Ray Claxton, mechanical contracting firm in Dallas, Tex. Grimes will work in the fields of air-conditioning, process piping and industrial sheet metal. For the past 11 years Grimes has been with Minneapolis-Honeywell Regulator Co.

Mueller Climatrol, Div. of Worthington Corp. has appointed **William Crooker** chief engineer of the company's western zone. Crooker was formerly a cooling sales engineer at the Milwaukee, Wis. plant. His new position will take him to the company's plant at Alhambra, Calif., where complete engineering and sales facilities are maintained.



Albert C. Schilling has been elected president of Tagliabue Mfg. Co. Schilling joined the company in 1956 when it was acquired by H-B Instrument Co. He had been with H-B since 1951 where he served in sales management and as secretary of the company.

Paragon Electric Co. has named **Warren A. Petersen** western regional marketing manager for the company. For the past ten years Petersen has been with the company's time switch division where he has served as sales manager. In his new position he will supervise sales in the intermountain and west coast areas.



Vilter Mfg. Co. has announced two promotions. **Whitney I. Grant** has been appointed assistant chief engineer, and **Rolf Boehm** is named to the newly created post

WANTED:

AGGRESSIVE DISTRIBUTORS WHO CAN'T AFFORD TO WAIT!

Crystal Tips

Distributors are

**selling 63% more ice makers
than ever before . . . can you
afford not to find out why?**

Models illustrated reading
clockwise from top: B-500-B,
B-300-B, B-200-B. Capacities
up to 1/4 ton per day.



The fastest selling ice makers on the market today are Crystal Tips 2-in-1 Ice Makers. Why? Because automatic ice making is here and Crystal Tips has the features customers want. Now is the time to cash in on this vast market!

From the standpoint of design, engineering and attractive prices with high distributor profits, no other ice maker on the market can match Crystal Tips.

We want aggressive dealers now. If you are not satisfied with the profits you are getting from the line you are now handling or if you are not handling a line of ice makers and want more facts about a Crystal Tips distributorship, write us today.

First Name in Automatic Ice Makers

AMERICAN
AUTOMATIC ICE MACHINE COMPANY
1875 Fourth Street N. W. Faribault, Minnesota

A Division of McQuay, Inc.

Visit BOOTH D98-100, National Restaurant Show, May 4-9.

IT PAYS TO BE A CRYSTAL TIPS DISTRIBUTOR



of contracting co-ordinator. Grant has served in various capacities for the company since 1950. Boehm joined the company in 1951 and has served in engineering.

Five personnel changes have been announced by Worthington Corp. **Andrew F. Ward** has been named manager of distribution; **Earl R. Michel** is appointed manager of direct sales. Michel has been with the firm for over 25 years. **Peter A. McLeod** has been

promoted to the newly created post of manager of product sales; **John C. Conrad**, formerly technical sales representative of the Cleveland, Ohio area, replaces McLeod as product sales manager for centrifugal refrigeration products. **Charles V. Bengle** has been appointed manager of applied systems section.

Bally Case and Cooler Co. has appointed **William J. Wawrzonek** district sales manager for

three states. The territory will include: Wisconsin, Minnesota, and Iowa. In the past Wawrzonek has been with Ben-Hur Mfg. Co., and A. O. Smith Co.

S. Robert Adachi has been promoted to the position of chief engineer of refrigeration products for Recold Corp. Adachi has been with the company for the past six years and has served as a laboratory engineer. In his new capacity he will devote his entire time to the engineering of refrigeration products.

William E. Sullivan has been named sales manager of the heating and air-conditioning division of Stewart-Warner Corp. For the past seven years Sullivan has been district manager for the Airtemp Div., of Chrysler Corp. In his new position he will be responsible for sales activities of the company's dealers handling gas-fired furnaces and air-conditioning systems in southern New Jersey. He will also handle Winkler products in that area.

Robert B. Lynch has been promoted to plant manager of Taco Heaters, Inc.

Gordon F. Thruelsen has been promoted to general sales manager of Farr Co. Thruelsen was formerly general manager of Dust Control, Inc., a Farr Co. subsidiary.

Fedders-Quigan Corp. has appointed **A. F. Agovino** to head the company's new service and customer relations department. The department will take over the functions of what was formerly the service department. Other appoint-

Don't risk your reputation on motor capacitors of questionable quality. Remember — only the *right* capacitor will assure maximum torque.

For over 25 years C-D motor starting and running capacitors have been "preferred" by motor manufacturers and repairmen

alike. And, there's a C-D type for every known motor application ... available for immediate delivery from your local C-D Distributor. You can select the type you need for any job from Catalog XTR-MOT. Write for your free copy to Cornell-Dubilier Elec. Corp., South Plainfield, N. J.



**CORNELL-DUBILIER
CAPACITORS**

Old Hands at Dependability

Circle No. 20 on Reader Service Card

ments to the new department include: **Fred Tiedeman**, assistant manager; **Silvester Thompson**, field service manager; **John Russo**, parts manager.

Charles A. Johnson has been appointed sales representative for Wolverine Tube, Div. of Calumet & Hecla, Inc. Johnson will serve in the Chicago, Ill. metropolitan area which is part of the company's midwestern district. He replaces



Johnson

M. A. Jackson who has been assigned to the company's office in Dayton, Ohio.

Ben K. Hopkins has been promoted to quality control manager of Sherer-Gillett Co. Hopkins first joined the organization in 1936, and has most recently served as a laboratory technician. He has also worked as service man, laboratory assistant, and service manager.

Two new appointments have been announced by Koch Engineering Co. **Bill T. Lindsey** has been named sales manager, and **Earl H. Schreiber**, sales engineer. Both



Lindsey



Schreiber

appointments are in the company's cooling tower division. Lindsey and Schreiber were both with O. A. Sutton prior to joining Koch.

Iron Fireman Mfg. Co. has announced two key personnel changes. **Richard C. Wright**, chief engineer, has been elected vice president. **Jack Jordan** has been appointed assistant to the president. Wright has been in charge of the research and develop-

the trend is to compact line valves

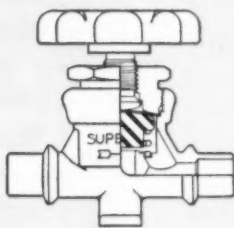


...with the **Superior "Tuffy"**
you get easier installation ...
longer, more satisfactory service ...
plus reduced original cost

This small-but-mighty line valve has proven to be a faultless performer in large and small refrigeration systems. Tests in our laboratory and in the field indicate that flow capacity is equal to or greater than larger valves now in operation. Pressure drop has been reduced to a minimum. The solid lower stem, made of special nylon, assures long, trouble-free service.

Try "Tuffy" valves—get outstanding performance in any installation requiring vacuums as low as 1 micron.

You can't beat "Tuffy"—better buy 'em.



outstanding design features

forged brass body
special nylon lower stem
metallic diaphragm construction
satisfactory for vacuum service
positive shut-off assured

"Tuffy" valves, pioneered by Superior, are
available at leading jobbers everywhere.



Superior valve and fittings co.

Pittsburgh 26, Pennsylvania

ment program of the firm's heating division since 1951. Jordan formerly was sales manager for a Cleveland burner manufacturer.

Chicago Blower Corp. has appointed **Donald W. Davis** western sales manager. Davis will be responsible for 35 of the company's sales offices in the western two-thirds of the United States. Before joining Chicago Blower this year, Davis spent 15 years with a division of Westinghouse.

Admiral Corp. has announced the appointment of **Walter D. Krauter** as sales manager of the company's freezer air-conditioner division. He joined Admiral in 1956 and has served as appliance product planning manager since that time.

Jack Matteson has been named by Cory Corp. to the newly created post of director of sales training for the company's air-conditioning contract sales division.

Appointment of **William F. Steiner** as assistant national sales



manager has been announced by Payne Company. Steiner will supervise the overall field sales force, excluding the southern California area. He has had over 15 years experience in the gas appliance and heating industry. His former position was factory sales engineer in the northern California sales territory.

Sven Swanson has been named technical director of the export division of Tyler Refrigeration Corp. Swanson joined the company in 1944, and has served as chief refrigeration engineer.



A PLANELOAD OF DEALERS was brought to Dayton, Ohio, early this year by S. S. Fretz, Jr., Inc., Airtemp distributor in Philadelphia, Pa., for a full day of indoctrination that featured a tour of Airtemp's plant facilities and a presentation of the company's 1958 product line and sales program. All 80 seats on the plane were filled, despite miserable weather. Greeting the dealers as they deplaned are H. B. Shaffer (second from right), vice president of the Fretz air-conditioning division, and Lee Epley (right) of the Airtemp factory staff.

Two changes in sales personnel have been announced by Koch Refrigerators, Inc. **Walter R. Bill** has been named to represent the company in the Florida area as district sales representative. **Cal**

4 WILL GET YOU 50

WATSCO MAGNI-CHEK



...check valve with the versatile T-S connection now offers you 50 different installation combinations with just four sizes of valves: 1/4", 3/8", 1/2", 5/8".

Let Magni-Chek reduce your inventory and give you a saving in bulk, weight, and dollars.

Only Magni-Chek offers you two very important features.

First of all, a check valve with no springs and therefore no back pressure. Only a small floating disc controlled by a lifetime alnico magnet does the work.

Secondly the T-S (thread-solder) connection, which is a standard male flare fitting with removable inserts for flare or solder or combination of both, offers complete versatility of installation with no additional parts or tools being required.

U.S. Pat. No. 2,646,071, 2,824,756

EXAMPLE: MTS-6 (3/8")

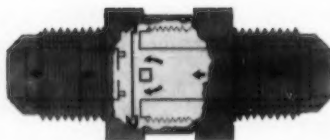


For 3/8" flare installations or 1/4" solder, allow insert to remain.

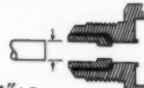


3/8" flare nut

1/4" I.D.



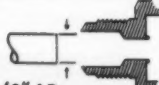
For 5/16" solder installation reverse insert.



5/16" I.D.

Magni-Chek can be installed in any position without affecting performance!

For 3/8" solder installation remove insert.



3/8" I.D.



INC.

Send for 1958 catalog

1020 EAST 15th STREET, HIALEAH, FLORIDA.

Circle No. 24 on Reader Service Card

For simplified
installation...



HEAT-X, Inc.

SUBSIDIARY OF DUNHAM-BUSH, INC.

BREWSTER • NEW YORK

select **heat-x**

AIR COOLED PACKAGE CHILLERS REMOTE CONDENSING UNIT ASSEMBLIES

No selection problems or engineering headaches with these reliable HEAT-X units! No components to match and assemble. Simply pick the unit you need for the capacity required. Each unit is complete, pre-engineered, "packaged".

'ARPC' AIR COOLED PACKAGE CHILLERS are designed primarily for residential and light commercial air conditioning applications. Furnished with 2, 3 or 5 HP compressors, Inner-Fin air cooled condensers, water chillers, superheaters and all necessary controls. Chiller is of patented Inner-Fin construction with all copper and brass water passages, completely eliminating the rust problem.

'RCU' REMOTE CONDENSING UNIT ASSEMBLIES are designed for use with remote direct expansion coils and consist of 2, 3 or 5 HP compressors, Inner-Fin air cooled condensers, superheater and all necessary controls.



ALL UNITS FEATURE:

Condenser of air cooled type with high efficiency Inner-Fin coil.

Superheater-Heat Interchanger of exclusive Inner-Fin construction which combines the advantages of the heat interchanger with the additional advantage of a superheater—insuring full use of the evaporator surface for cooling. Additional liquid subcooling improves overall system performance.

Cabinet finished in blue aluminum paint, suitable for indoor or outdoor installation.

Request Catalog No. 8027 containing complete specifications.

DUNHAM-BUSH

AIR CONDITIONING • REFRIGERATION • HEATING • HEAT TRANSFER

WEST HARTFORD, CONNECTICUT • MICHIGAN CITY, INDIANA • MARSHALLTOWN, IOWA
RIVERSIDE, CALIFORNIA • ROSTERVILLE, ILL. • BRUNNEN DIVISION, UTICA, NEW YORK
heat-x HEAT-X, INC. DUNHAM-BUSH, LTD. DUNHAM-BUSH (CANADA), LTD.
BREWSTER, N.Y. LANSING, MICH. LANSINGVILLE, GA. TORONTO, CANADA
DUNHAM-BUSH DUNHAM-BUSH DUNHAM-BUSH DUNHAM-BUSH
LANSING, MICH. LANSINGVILLE, GA. LANSINGVILLE, GA. LANSINGVILLE, GA.



Bill



Scher

E. Scher has also been appointed district sales representative. Scher has been with the company for six years in contract sales and service information.

Frank O. Brocksmith has been named special sales representative for Amana Refrigeration, Inc. Brocksmith, who recently joined the company, will work on special assignments.

James M. Quigley has joined Thatcher Furnace Co. as a sales engineer. Quigley will work with Daniel J. Buckley in the Brooklyn and Long Island, N.Y. areas for the company.

PAUL HOPPER REJOINS KIEFABER COMPANY

Paul H. Hopper has rejoined W. H. Kiefaber Co., Dayton, Ohio,



wholesaler of refrigeration and air-conditioning supplies, as manager of that firm's refrigeration department.

Hopper originally joined the Kiefaber organization in this same capacity in 1945. He resigned in January 1956 to form A and H Supply Co. Later he sold out his interest in that firm.

Prior to joining Kiefaber for the first time, Hopper had been employed in the service department of Airtemp Div., Chrysler Corporation.

REPRESENTATIVE NAMED

R. M. Hepner of Hepner Air Filter Service, Cleveland, has been appointed sales representative for Barnebey-Cheney activated charcoal air purification equipment in the Cleveland sales area.

TEXAS WHOLESALE SHIFTS FIELD MEN

Climate Supply Co. has announced the appointment of Larry Gilbert as applications engineer. Gilbert, with 12 years' experience in commercial and industrial air-conditioning and refrigeration, will cover the Dallas area.

Bill Chandler, formerly of the Dallas area, will service the Northeast Texas territory.

NEW ARI SECTION FORMED

A new product section of Air-Conditioning & Refrigeration Institute is the mobile air-conditioning and refrigeration section. Henry O. Kirkpatrick of American Mfg. Co., Div. of Standard Forge & Axle Co., Inc. has been named chairman of the new group.

This brings the number of ARI product sections to 15. The new section will presently concern itself with refrigeration for trucks, trailers, and railway cars.

TYPE 56

R-12 to R-22
...with the twist of a wrist!

Here is the one and only water regulating valve for both R-12 and R-22 . . . adjustable from 60 to 270 pounds . . . without changing springs.

But this is simply the crowning achievement in a water valve that is out in front in every department. It is small and compact—fits in!—but it has plenty of capacity, smooth modulation, positive operation, excellent flow characteristics!

Construction is the Marsh quality kind—the kind you know so well: Monel seat beads minimize wire drawing. Direct acting bellows assures long life. There is a provision for manual flushing after installation to remove dirt and grit. Bulletin tells the story.

Buy the Type 56 from your wholesaler

MARSH
Refrigeration Equipment

From 60 to 270 psi

Now made in 1" size
... in addition to 3/8", 1/2", and 3/4".

MARSH INSTRUMENT CO. Sales Affiliate of Jas. P. Marsh Corp. Dept. P, Skokie, Ill.

Marsh Instrument and Valve Co. (Canada) Ltd., 8407 103rd St., Edmonton, Alberta
Houston Branch Plant: 1121 Rothwell St., Sect. 15, Houston, Texas

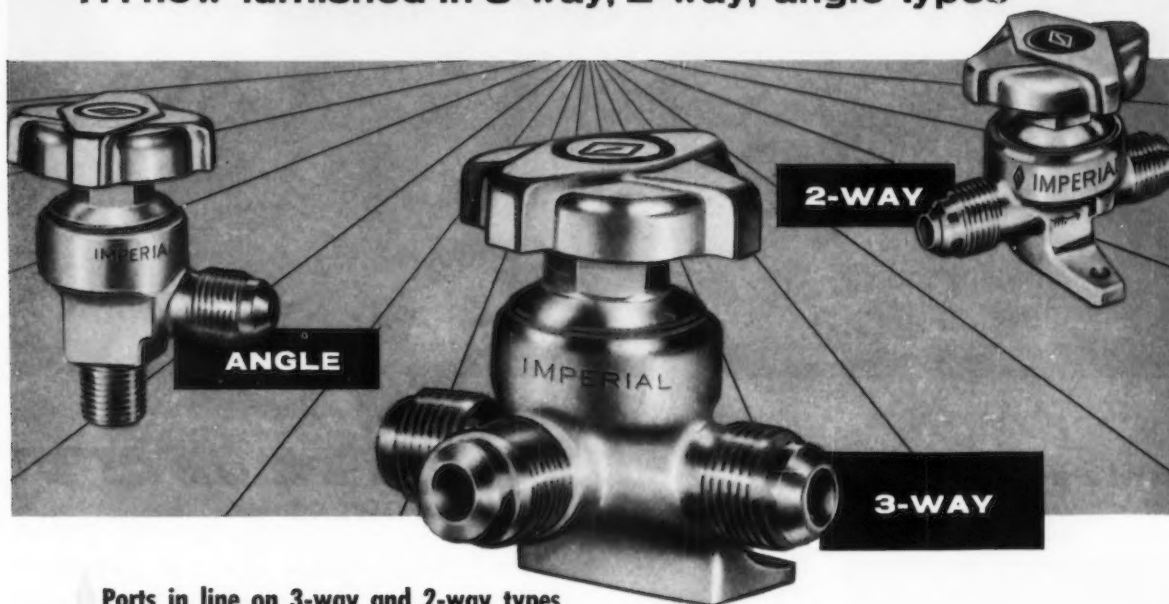
GAUGES • WATER REGULATING VALVES • SOLENOID VALVES • HEATING SPECIALTIES

Circle No. 22 on Reader Service Card

More compact installations with

IMPERIAL DIAMOND VALVES

... now furnished in 3-way, 2-way, angle types



Ports in line on 3-way and 2-way types

No need to make offset bends

Flare and solder connections

$\frac{2}{3}$ the size of ordinary valves

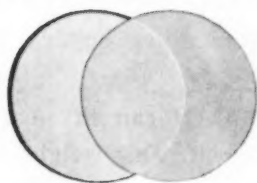
Greater compactness... ease of operation... reliability... economy — features that have made Imperial Diamond Valves so popular — are now available in 3-way, 2-way and angle types for $\frac{1}{4}$ to $\frac{5}{8}$ " O.D. tube. Furnished with either flare or solder connections.

Solid Teflon diaphragm protected on top with high tensile strength Du Pont Mylar disc. Provides extra durability and heat resistance. Prevents damage due to over-torquing.

These valves eliminate need for offset bends, with 3-way and 2-way types, since connections are in one plane.

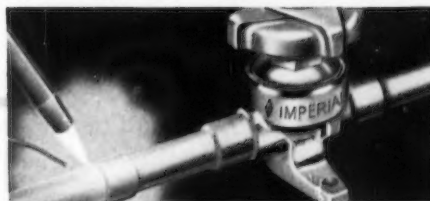
Order from your Wholesaler or write for Bulletin 119-REF.

MYLAR PROTECTED TEFLON DIAPHRAGM!



High tensile strength Du Pont Mylar disc (23,000 psi) protects top of diaphragm, prevents damage from over-torquing.

SOLDER INTO LINE WITHOUT DISASSEMBLING



Copper tube extensions dissipate heat when soldering... no need to disassemble valve.

IMPERIAL

THE IMPERIAL BRASS MFG. CO.

6300 W. Howard St., Chicago 31, Illinois, Dept. CR-58
In Canada: 18 Hook Ave., Toronto, Ontario

Emblem of Quality 

FITTINGS • VALVES • DRIERS • CHARGING LINES • TOOLS for Cutting • Flaring • Bending • Pinch-Off • Swaging

Circle No. 23 on Reader Service Card

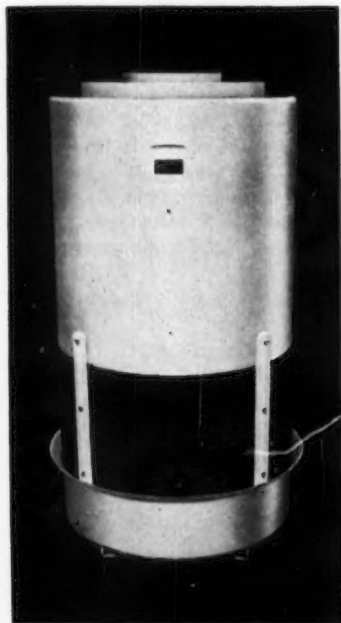


YOU use stone age cooling towers

unless you use

**Revolutionary
New Fiberglass**

KOCH JET COOLING TOWERS



WRITE — RIGHT NOW! FOR complete information, "spec" sheets, catalog sheets, etc.

DISTRIBUTORS! ATTENTION! A few choice exclusive distributorships are still open in certain major market areas. Contact Koch at once for this JET AGE opportunity!

KOCH
ENGINEERING CO., INC.

Koch Building
321 W. Douglas Ave.
Wichita, Kansas

Koch's Forced Draft action is as new as tomorrow! High-velocity, non-clog nozzles at the top of the tower break down water droplets into *atomized* particles which, in their downward thrust, create a continuous one-way piston action in displacing the air. This draws in huge quantities of air at the top... giving the Koch Jet-Action Tower a very high evaporative action. This high evaporative process speeds up BTU rejection and makes unnecessary wood slats and baffles used in most conventional "old-fashioned" towers.

NO RUST! NO CORROSION! NO ROTTING! NO COLLECTION OF CHEMICALS! New non-corrosive Fiber Glass construction eliminates all the old cooling tower bugaboos!

NO MOVING PARTS! No motors, belts, pulleys, bearings, etc. to worry about — EVER!

SO LIGHTWEIGHT that ONE MAN can lift a 7½-ton capacity tower... even install it himself. Dry weight of tower is only 67½ pounds. Towers available in 3 through 25 nominal tons.

EYE-APPEALING SATIN SMOOTH FINISH STAYS CLEANER MUCH LONGER!

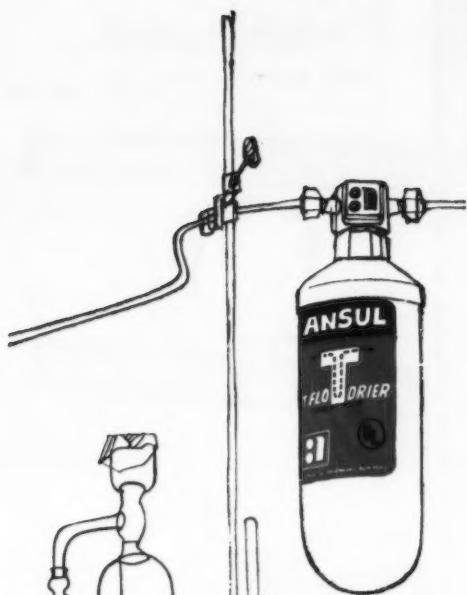
KOCH
JET *forced draft*
COOLING TOWER

"CONTINUING PROGRESS THROUGH ENGINEERING RESEARCH"

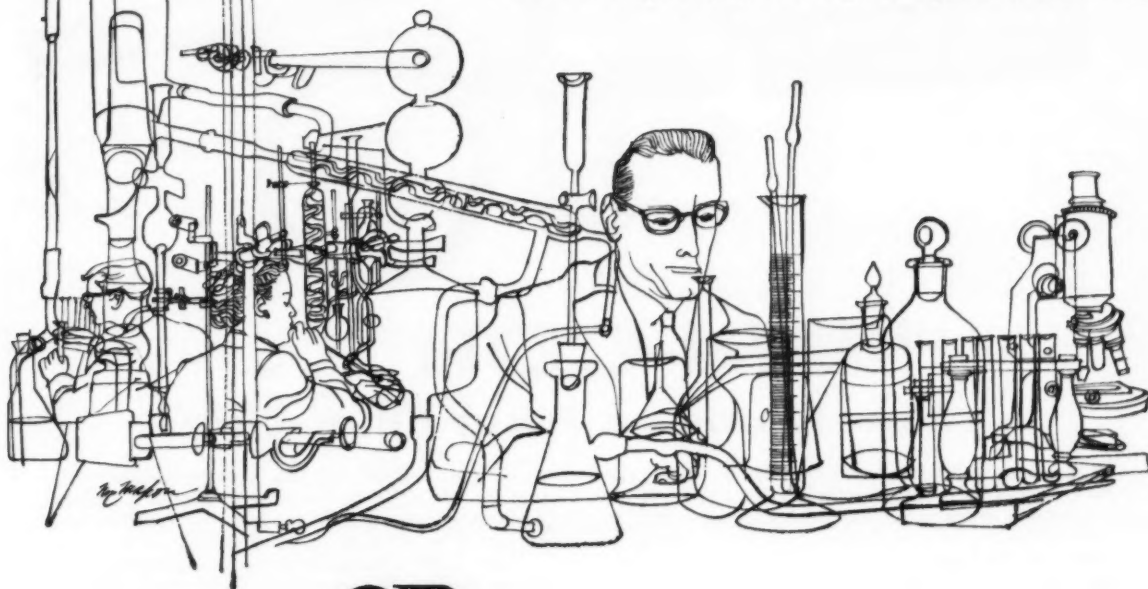
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REFRIGERATION & AIR-CONDITIONING

PEOPLE MAKE THE DIFFERENCE



A free-wheeling kind of imagination has been at work when someone creates a really new product for the refrigeration industry . . . for any industry. We mean a product like Ansul's T-FLO DRIER—completely new in concept, excitingly successful in use. Let our Ansul people put their blend of experience and imagination to work for you. Their personal attention to your refrigeration moisture problems is yours for the asking and our refrigeration products guide is yours for the writing.



ANSUL

CHEMICAL COMPANY / MARINETTE, WISCONSIN

FIRE EXTINGUISHING EQUIPMENT / INDUSTRIAL CHEMICALS / REFRIGERATION PRODUCTS / NATIONAL DISTRIBUTORS OF "FREON" REFRIGERANTS
Circle No. 25 on Reader Service Card

AN ENTIRELY NEW DESIGN

OH BOY! MICRONIC FILTRATION TOO

LOOK AT THAT TRANSVERSE FLOW

ABSO-DRY PRESSURE SEALED "THEY HISS & TELL"

BRASS END CONNECTIONS—EASIER TO SEAL

HIGH WORKING PRESSURE—500 PSI

LOOK! GRANULAR DESICCANT TOO

CERAMIC FIRED DESICCANT BLOCK

NO FOOLING, LESS PRESSURE DROP

ABSO-DRY PRESSURE SEALED DRIER
HENRY VALVE CO.
CONTROLLING FLOW SINCE 1914
U.S. PATENT NO. 2,638,014

"DRI-COR"...

a New Name—a Finer Filter-Drier

■ You can expect the best from Henry. Here's the new "Dri-Cor" Filter-Drier. It incorporates an activated ceramic fired desiccant filter core for micronic filtration in combination with granular desiccant for high efficiency drying with low pressure drop. Drying and filtering are properly proportioned.

Like other Henry Driers the "Dri-Cor" is

thoroughly reactivated and pressure sealed at the factory, through the exclusive patented Henry Abso-Dry process. This assures maximum drying efficiency at time of installation.

"Dri-Cor" Filter-Drier cartridges with the same design features are also available for Henry Cartridge Type Driers. Definitely a "must" for those who demand the best.

See Your Local Henry Jobber

HENRY VALVE CO.

MELROSE PARK, ILLINOIS (Chicago Suburb)

Cable: Hevalco, Melrose Park, Illinois

VALVES, DRIERS, STRAINERS, AND ACCESSORIES FOR
REFRIGERATION, AIR CONDITIONING, AND INDUSTRIAL APPLICATIONS



LISTED BY UNDERWRITERS' LABORATORIES, INC. UNDER RE-EXAMINATION SERVICE FOR MAXIMUM WORKING PRESSURE OF 500 PSI

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REFRIGERATION & AIR-CONDITIONING



A SEAL*

**NO LARGER THAN THE
TUBE ITSELF**

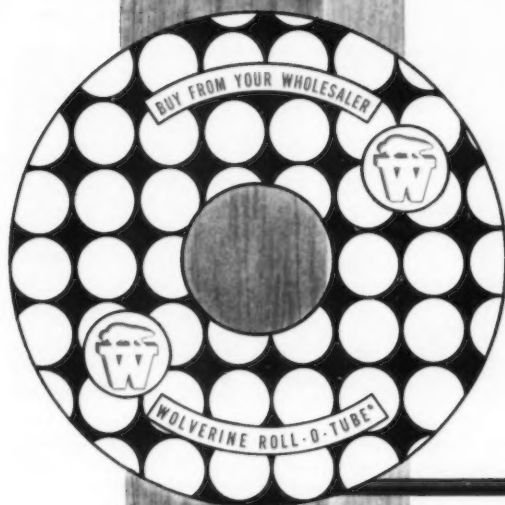


... EASY TO REUSE



**AVAILABLE ONLY WITH
WOLVERINE ROLL-O-TUBE®**

*Easy to insert through
partitions—keeps tube
clean and dry.



**ASK FOR WOLVERINE ROLL-O-TUBE
BY NAME AND BUY FROM YOUR
WHOLESALER**



CALUMET & HECLA, INC.
CALUMET DIVISION
URANIUM DIVISION
GOODMAN LUMBER DIVISION
WOLVERINE TUBE DIVISION

In Canada:
CALUMET & HECLA OF CANADA LIMITED
WOLVERINE TUBE DIVISION
CANADA VULCANIZER & EQUIPMENT CO. LTD.
UNIFIN TUBE DIVISION



WOLVERINE TUBE
DIVISION OF

CALUMET & HECLA, INC.

**17228 Southfield Road
Allen Park, Michigan**

Manufacturers of Quality Controlled Tubing and Extruded Aluminum Shapes

**PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA.
SALES OFFICES IN PRINCIPAL CITIES.**

EXPORT DEPT. 11 E. 40TH STREET, NEW YORK 15, NEW YORK

Circle No. 27 on Reader Service Card

SCALE removal and prevention are easier, safer, cost less with "VIRGINIA" WATER TREATMENT CHEMICALS



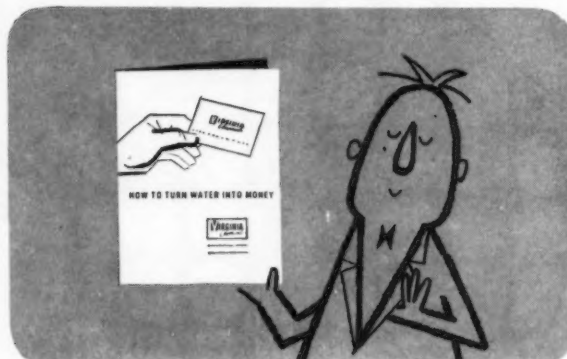
Water Treatment Scale and Corrosion Inhibitor—Greatly reduces scale buildup on metal. Specially blended glassy polyphosphates provide slow, *controlled* solubility for continuous effective dosage. No controls or feeder devices needed. Simple and quick—anyone can do it.



Scale Removers (Solid and Liquid)—For any kind of water-cooled equipment, "Virginia" Scale Removers are safest, easiest, most economical. Solid is a dry-acid formulation, carefully inhibited. Liquid works faster on heavy scale. In handy cartons with plastic "bottle" lining, easy-pouring spout.



Algae-Cides #1 and 2 and Ice Machine Cleaner—#1 uses a very high copper ion concentration to kill many types of algae and eliminate slime. #2 eliminates slime, mixtures of algae and slime, and copper resistant algae. Ice Machine Cleaner removes scale and slime, prevents cloudy ice and bad odors.



"How to Turn Water into Money"—Information about a new moneymaker for service companies. Stop seasonal slumps, get extra profits all year. Send for *free* booklet, "How to Turn Water into Money." Write Refrigeration Division, VIRGINIA SMELTING Co., 291 Jefferson St., West Norfolk, Va.

ESOTOOL • V-METH-L • CAN-O-GAS • VASCO-CEL • PERMAGUM • PRESSTITE TAPE • KWIKWRAP • SUNISO REFRIG-
ERATION OILS • WATER TREATMENT CHEMICALS • SALES AGENT & REPACKER FOR "FREON" REFRIGERANTS

Available in Canada and many other countries

Circle No. 28 on Reader Service Card



REFRIGERATION & AIR-CONDITIONING

MAXIMUM EFFICIENCY in MINIMUM SPACE...

The BOHN CH Ceiling Unit

Available in 2, 3, 4, 5 and 7½ tons capacities



The Bohn Ceiling Unit is a horizontal type blower evaporator, ceiling mounted for air-conditioning stores, shops, offices, restaurants and similar installations. Its attractive cabinet permits mounting directly in the conditioned space or the unit can be remotely mounted and connected to a duct system. Space for steam or hot water coil permits simple conversion to year-round air-conditioning and heating unit. Sectional side panels for easy inspection and maintenance. Filters removable from either side. Full rated 400 CFM per ton. Available in duct or grille models. Buy the known line—the *Bohn* line.

- easy and economical to install and service
- silent, trouble-free operation
- insulated to eliminate sweating and absorb sound
- attractive, compact, heavy gauge bonderized steel cabinet with durable hammertone enamel finish
- built-in drain pan



Rear view of Bohn CH Ceiling Unit

BOHN

Refrigeration and Air Conditioning Products • Special Heat Transfer Surfaces

Aluminum and Brass Corporation

Betz Division • Danville, Illinois

General Offices: Detroit 26, Michigan

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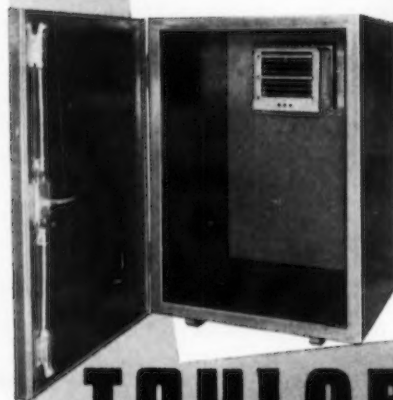
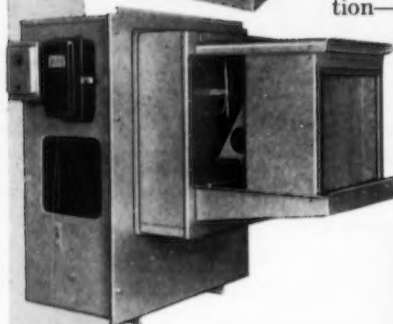
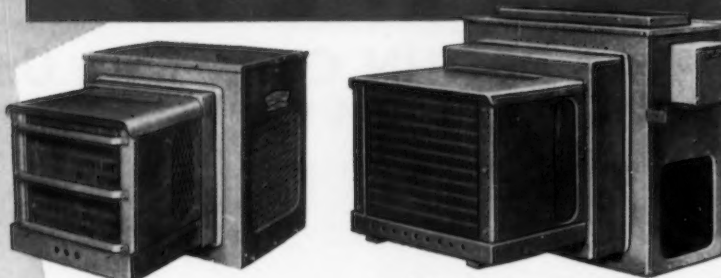


COMPLETE LINE

TAYLOR-BURCH

packaged

COOLER UNITS



Here is the complete line of **packaged** cooler units for all installations and conditions. **FREEZERS • COOLERS • ICE HOLDING UNITS**

All are absolutely automatic in operation—merely set controls at desired operational temperature. . . . Defrosting is automatic. Installation is simple and easy — requires no technical knowledge or tools — no lost floor space. The entire electrical system is encased and the gas and oil charge are hermetically sealed in.

**MODELS AVAILABLE IN
TEMPERATURE
AND
HUMIDITY
FOR ALL APPLICATIONS**

All models are adaptable to single or multiple installations and all machines are designed to operate in extremely high temperatures.

Dealer Inquiries Invited

Write for detailed specifications.

TAYLOR-BURCH

REFRIGERATION PRODUCTS INC.

2524 BROOKLYN ROAD

JACKSON, MICHIGAN

WE SPECIALIZE IN DEVELOPMENT AND DESIGN OF SPECIAL REFRIGERATION EQUIPMENT AND THE MANUFACTURE OF PARTS AND SUB-ASSEMBLIES FOR PRODUCTION RUNS

Circle No. 30 on Reader Service Card

Letters

One Good Turn Deserves Another!

EDITOR:

In the December issue of your magazine there was a feature article on the H & S Auto Refrigeration Co. in Phoenix, Ariz. No address was given and I am wondering if you would be so kind as to forward their address to me.

Our firm has been seriously considering auto cooling as a worthwhile addition to our present air-conditioning business, and I feel that some of our questions might best be answered by someone who has had field experience.

I do want to compliment you on your fine publication. It always has some articles with real worthwhile content. Too many trade publications are nothing more than advertising brochures. In my opinion, your publication escapes this appellation.

EDWARD L. KEMP JR.
Edward L. Kemp Co.
McKeesport, Pa.

Needless to say, Mr. Kemp was promptly sent the information he desired. After those kind words, how could we refuse?

Sorry, It's Confidential

EDITOR:

This is to inquire if we may have the names of the manufacturers listed as A through G in your article "Something's Wrong", page 49 of the February issue of COMMERCIAL REFRIGERATION & AIR CONDITIONING.

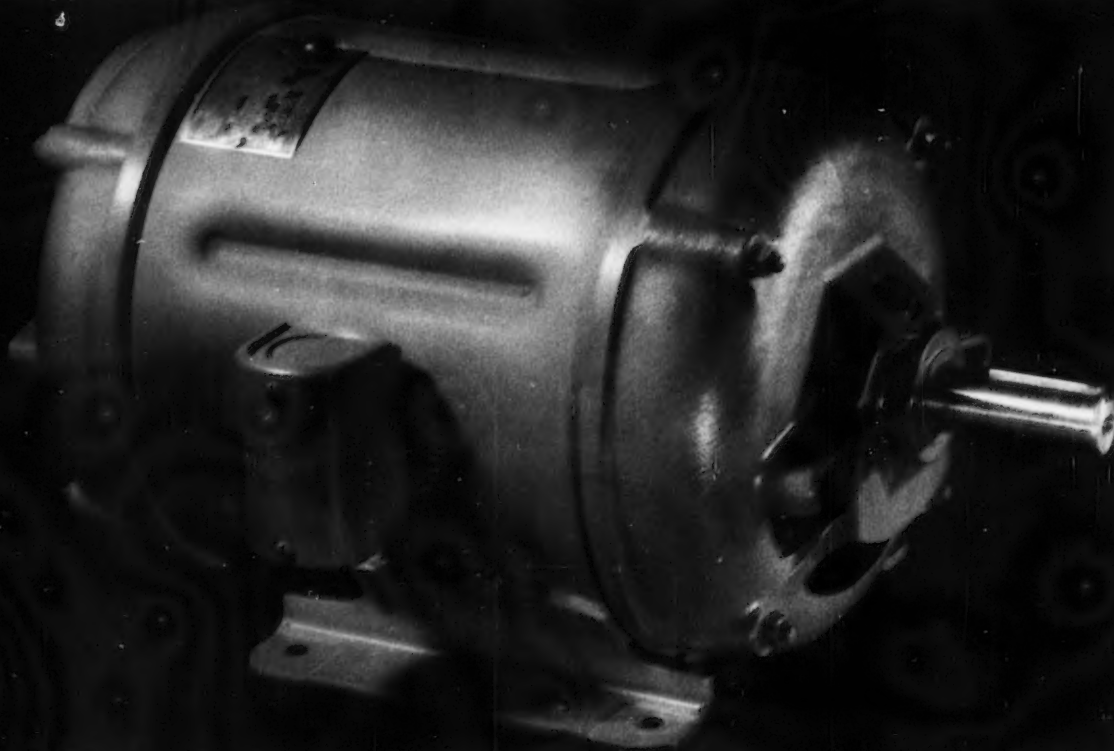
We are very much interested in knowing who these manufacturers are as we are in the air conditioning business.

J. R. NEVOGT
Nevogt's Refrigeration Service
Meadville, Pa.

When these figures were requested from the manufacturers, it was with the understanding that we would not release their names if the results were published. However, these seven manufacturers represent what could be called the leaders in the industry.

The purpose of this article was not to embarrass anyone, but to point out that there was apparent

Got a Real Tough Starting Problem ?



Single-phase Type RA ½ to 15 hp.

Wagner Repulsion-Start Induction Motors start heavy loads with low current

The Wagner Type RA is the work-horse of the single-phase motor field. It combines high starting torque for quick, easy starts with low starting current and minimum light flicker. It has a constant high operating speed, even under overload, and a flat efficiency curve over a wide operating range.

You practically eliminate service problems when you power tough single-phase applications with Wagner RA Motors. They have unmatched ability to start high inertia or heavy friction loads repeatedly and they give many years of unflinching service.

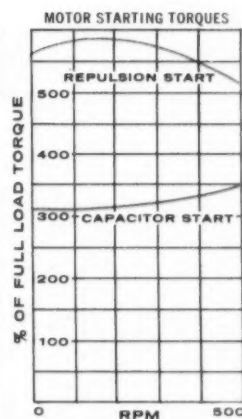
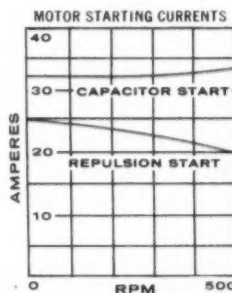
Let a Wagner Sales Engineer show you how these motors can be applied to your needs. Call the nearest branch office or write for Bulletin MU-220.

Wagner Electric Corporation

6400 Plymouth Ave., St. Louis 14, Mo.

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

GET MORE STARTING TORQUE WITH THE SAME HORSEPOWER



ONE HP, 1750 RPM, 60 CYCLES, 230 VOLTS

Integral Ratings, 1-5 hp are available in the latest NEMA Frame Sizes

H. P.	OLD FRAME SIZE	PRESENT FRAME SIZE
1	203	182
1½	204	184
2	224	213
3	225	215
5	254	254U

4 pole (1750 RPM, 60 cycle and 1450 RPM, 50 cycle) ratings are interchangeable in mounting dimensions with capacitor start motors of the same ratings.

Got a Normal Starting Application?



Single-phase
Type RK
1/2 through 5 hp.

WAGNER CAPACITOR-START MOTORS provide dependable starts... long troublefree life

Here's the single-phase general purpose motor that gives more horsepower with less bulk—is rugged enough to permit direct mounting, compact enough to fit in tight spots. Available with sleeve or ball bearings—with rigid bases or with resilient mountings for exceptionally quiet operation.

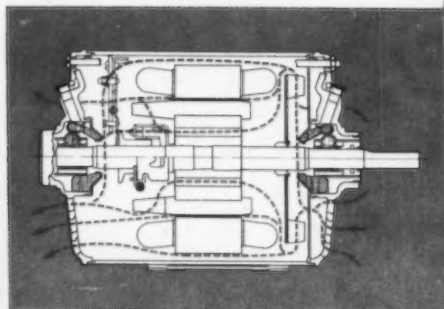
ALL-ANGLE OPERATION

The sleeve bearing design in fractional hp ratings, has a positive lubrication system that permits operation in any position. All angle mounting can mean important savings in initial costs to manufacturers—can help the design engineer in a tight spot.

You can get these motors from leading motor distributors in your community and from Wagner Sales Offices in 32 principal cities. Your Wagner Sales Engineer will be glad to help you select the right motor for your application. Wagner Bulletin MU-217 gives full details.

Wagner Electric Corporation

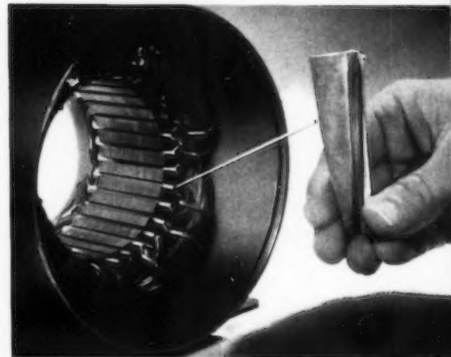
6400 Plymouth Ave., St. Louis 14, Mo.
BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES



EFFICIENT COOLING SYSTEM—The improved ventilating system used in these motors directs a large volume of air through the motor to effectively reduce temperatures and add to motor life. Cross section above indicates direction of air flow.



QUICK BREAK SWITCH—The starting winding and capacitor are disconnected from the line by this Wagner Switch—test-proved to make more than a million makes and breaks... the equivalent of two starts per hour for 50 years.



MYLAR* INSULATION—Mylar-paper laminated slot insulation gives top protection against moisture, adds thermal stability, to give more application versatility and longer life when unexpected overloads occur.

*DuPont Trademark

WAGNER "48" SPLIT PHASE MOTORS... 1/6, 1/4, 1/3 hp.



for low
starting
torque
requirements

If you need a small fractional horsepower motor for use on fans and blowers or on a wide variety of easy-to-start machines and appliances, you can't beat the Wagner "48" Type RB Motor. It offers all the advantages of the Type RK described above, with the exception of high torque capacitor starting. This smaller, lighter, limited use motor can solve many application problems economically.

confusion in figuring heat loss and heat gain. The results, we feel, prove that point. Every manufacturer should look into his figures and come to a basic decision on design conditions as well as coefficients. This article should help guide them to such a conclusion.

G-E Missed the Boat On Heat Pump Specs

EDITOR:

As you know, it sometimes happens that the right letter doesn't get routed to the right desk at the right time. It happened to us recently and, as a result, we missed having our line of heat pumps listed in your Air Conditioning Specifications issue.

Despite this oversight, we want to assure you that GE's Weathertron Dept. is very much in the heat pump business. In fact, we are adding three split model Weathertrons to our line of integral units. This gives us a full heat pump line of six models ranging from 2½ to 5 tons.

We would be happy to send complete specifications of these units to any of your readers desiring them.

L. K. CARLBON
General Electric Co.
Air Conditioning Dept.

Business Management Articles Prove Helpful to Everyone

EDITOR:

A copy of the April issue of your magazine was delivered to our office by mistake. Before returning it to the post office for re-forwarding, I glanced through the pages and found myself reading the interesting article in the "You're the Boss" series by George C. Webster.

I was so favorably impressed with this article that now I am writing you in the hope that I will be able to purchase all of the articles in this series. Please let me know if this is possible, and what the total charges will be.

FRANCIS A. ROMERO
Cargo Sales Manager
Brazilian International Airlines

Reprints of articles in this series that have already been published are now available. Reprints of future articles will be made available as they appear.

Orders are being accepted for reprints of the entire series, with a single billing to be made when the series is completed. A complete schedule of prices appears on page 80 of this issue.

Who Makes It?

EDITOR:

I am wondering if it would be possible for you to give me the address of the RBM Relay Manufacturer. I would like very much to write them in regard to a distributorship on their relays.

KENNETH R. DUNCAN
Duncan Supply Company, Inc.
Indianapolis, Ind.

RBM relays are manufactured by Essex Wire Corp., 1601 Wall St., Fort Wayne 6, Ind.

* * *

EDITOR:

In the March issue of your maga-

zine, on page 130, you published a small picture of a gasoline driven air conditioner mounted on top of a truck cab.

We would like to get more information about this type of air conditioning system for truck cabs and were wondering if you could advise us who the manufacturer is.

BELTON KLINSIEK
Fredericksburg Machine & Appliance Co.
Fredericksburg, Tex.

The truck cab air-conditioner described in our March issue is manufactured by Kysor Heater Co., Cadillac, Mich.

Wherever
2-way shut-off
is required...
HANSEN
QUICK-CONNECTIVE
TWO-WAY SHUT-OFF COUPLINGS

To connect a Hansen Two-Way Shut-Off Coupling, you merely pull back the sleeve and push the Plug into the Socket. To disconnect, just pull back the sleeve. No tools required. When Coupling is disconnected, similar valves in Socket and Plug shut off both ends of line—practically eliminate spilling of liquid or escape of gas at instant of disconnection.

Hansen Series HK Two-Way Shut-Off Couplings for pressure or vacuum service are available with female pipe thread connections from 1/8" to 1" inclusive. All sizes are available in either brass or steel.

WRITE FOR THE HANSEN CATALOG

Here's an always ready reference when you want information on couplings in a hurry. Lists complete range of sizes of Hansen One-Way Shut-Off, Two-Way Shut-Off, and Straight-Through Couplings—including Special Service Couplings for Steam, Oxygen, Acetylene, etc.



REPRESENTATIVES IN PRINCIPAL CITIES

SINCE 1915



QUICK-CONNECTIVE FLUID LINE COUPLINGS

THE HANSEN

MANUFACTURING COMPANY

4031 WEST 150th STREET • CLEVELAND 11, OHIO

Circle No. 32 on Reader Service Card

GLAD

TO HEAR THE EQUIPMENT YOU SPECIFY DELIVERS THE
GOODS ON THE JOB? THEN READ THE RIGHT HAND PAGE...



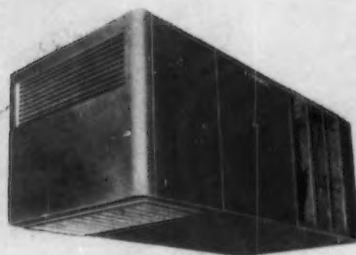
Circle No. 33 on Reader Service Card

AMAZING NEW AUTOMATIC HEAT PUMP

Two, three and five ton sizes. The three and five ton units have two compressors, two stage control. Heats and cools without fumes, fire, fuel or water! Compact, easy to install, completely self-contained. Most promising and profitable unit you ever sold.

TAS COOLING UNIT

Two, three and five ton units. Easy installations; no mess, can be done in a few hours. Minimum space needs, goes in attic, basement, anywhere! Power Reserve assures best performance, long life, lasting profits!



YOU KNOW YOU CAN COUNT ON TYPHOON!

Typhoon adds to your reputation by turning in the kind of performance your clients demand... and more! Each and every Typhoon unit is designed and built to stand up to extreme weather conditions and sudden severe temperature changes without strain or breakdown. Typhoon quality begins with Power Reserve—superior components and oversize parts to deliver beyond rated capacity. All copper condensers in water cooled units, largest coil surfaces, and rugged 11 and 14 gauge metal in durable lifetime cabinets. And Typhoon dependability is enhanced by the flexibility of large and small units that can be easily adapted, split or combined to fit any and all installations with maximum ease and economy. Air cooled units from 2 tons to 20 tons, both packaged and as split systems. Water cooled units from 3 tons to 60 tons. Packaged water chillers, 2 tons to 50 tons. Air cooled condensing units to 20 tons, water cooled to 60 tons. For quality, performance, versatility... next time select Typhoon, the industry's most complete line of packaged air conditioners.

TYPHOON
DIVISION OF HUPP CORPORATION

Typhoon Air Conditioning Company
505 Carroll Street, Brooklyn 15, New York

Please send me full product information on the Typhoon line.

Name _____

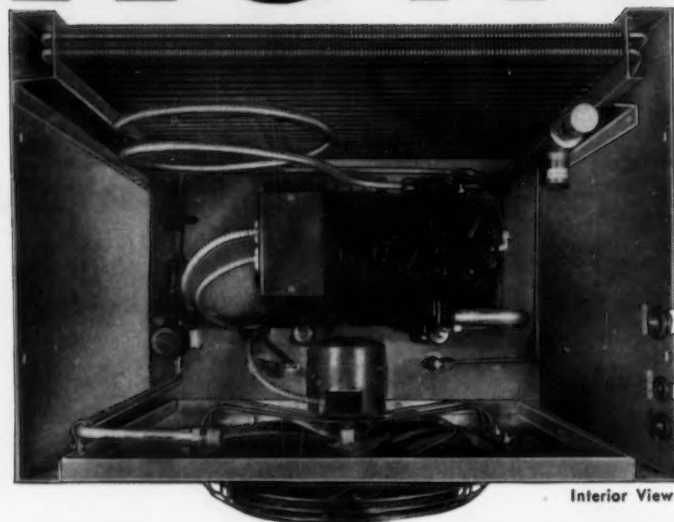
Address _____

City _____ Zone _____ State _____

8E-4

new!

new!



Interior View

new!

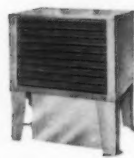
new!

KRAMER

THERMOBANK COMPRESSOR

FACTORY PACKAGED at LOW COST!

Kramer's new THERMOBANK COMPRESSOR overcomes the problems and uncertainties in field assembly of low temperature refrigeration systems. It's the only factory-assembled-and-tested automatic defrost system and includes a hermetic compressor, THERMOBANK re-evaporator and all controls. It arrives on the job ready to operate. Only simple connection to the Kramer evaporator is required and nearly all adjustments are eliminated. THERMOBANK COMPRESSOR uses an extra large air-cooled condenser and a high efficiency low temperature compressor—possible only with THERMOBANK—for maximum capacity at lowest cost. Tamper-proof aluminum case provides easy access to all components and maximum installation adaptability in any unconfined area. Units available on request for outdoor installation are designed for automatic trouble-free operation for any outside temperature.

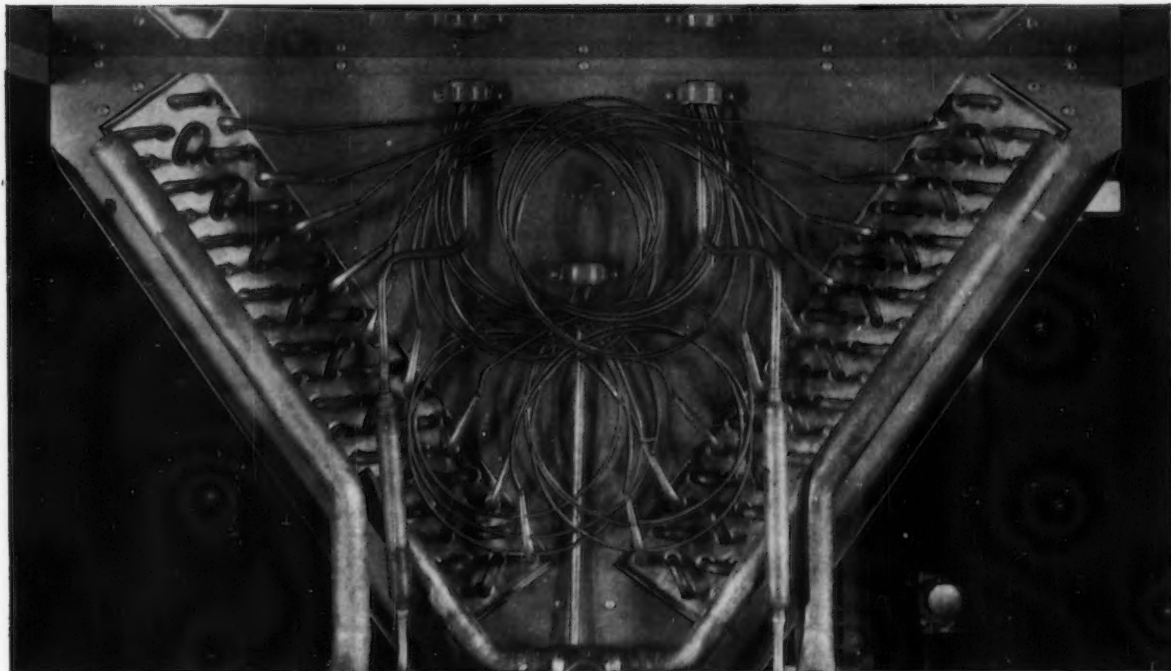


WRITE
FOR
BULLETIN
TC-406

KRAMER TRENTON CO. • Trenton 5, N.J.

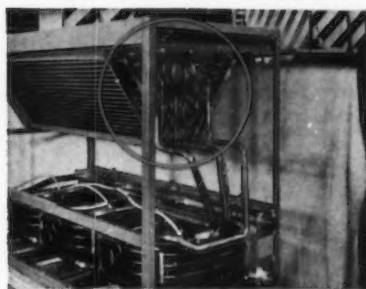
44 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

Circle No. 34 on Reader Service Card



Restrictor tube feed at end of evaporator in a 25-ton York packaged air conditioner. There are three systems, each served by a 7½-hp hermetically sealed compressor unit with a water-cooled condenser—making possible step-start and step-capacity operation.

York uses restrictor tube metering in units up to 25 tons—depends on clean, uniform restrictors



Area circled is location of restrictor tube feed shown in photo above.

RESTRICTOR TUBES, in 38 different combinations of length and diameter, play a vital role in packaged air conditioners produced by York Corp., a subsidiary of Borg-Warner. York pioneered in the air conditioning application of hermetically sealed refrigeration systems, which it uses in units up to 25 tons in cooling capacity. And these systems utilizing restrictor tubes for the metering

of the refrigerant, eliminating moving control parts, have greatly reduced field service and made possible the 5-year protection plan on all units.

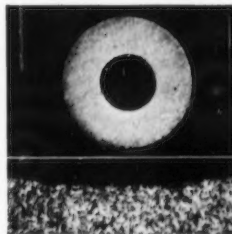
For dependable operation—and for economical manufacturing—York must have restrictor tubes that are clean and uniform, batch after batch. Anaconda restrictor tubes have been consistently meeting these requirements.

Consistently high quality. All Anaconda Restrictor Tubes are plug-drawn to finish. Extreme care is exercised in making the steel plugs, in order to produce a smooth, round inside bore as shown in the cross-section micrographs, right. Every length is chamfered at both ends, inside and out. Each tube is thoroughly washed and blown out, given a final air-flow test, carefully bundled, with ends of each bundle wrapped. Your range of selection is broad, as Anaconda Custom-Made Restrictor Tubes are made in both copper and aluminum, in nominal inside diameters from .025 inch to .090 inch.

Write today on your company letterhead for the free Anaconda Air Flow Slide-Rule Calculator. Address: French Small Tube Division, The American Brass Company, Box 1031, Waterbury 20, Connecticut.

ENR

A cross-section of an Anaconda Copper Restrictor Tube, .081" O.D. x .031" I.D., magnified 10X. Note the roundness of the bore.

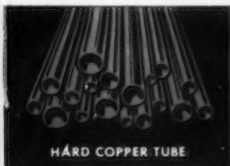


Section of a micrograph at 200X magnification to show smoothness of the bore.

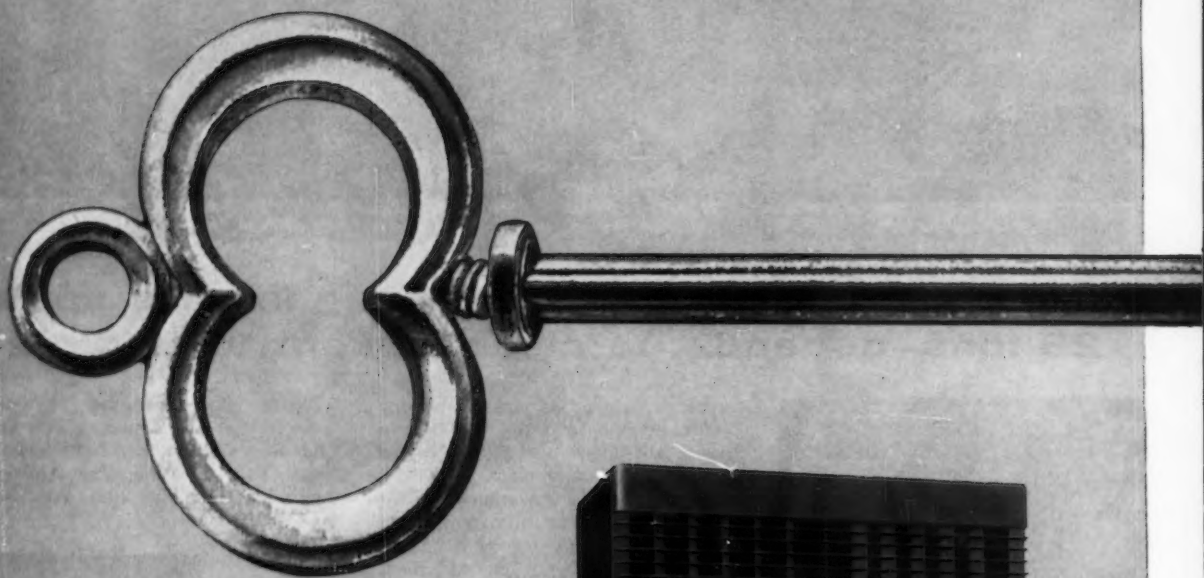
ANACONDA® RESTRICTOR TUBES

Made by French Small Tube Division
of The American Brass Company

ANACONDA PRODUCTS FOR THE REFRIGERATION AND AIR-CONDITIONING INDUSTRY



Now—unlock your full profit-potential with
**American Blower
Packaged Air Conditioners**



Circle No. 36 on Reader Service Card

REFRIGERATION & AIR-CONDITIONING

COMPLETE LINE

You can handle *any* commercial job — factory, office or store — when you install American Blower's complete line of packaged air conditioners. Comfort-engineered models, air- or water-cooled, are competitively priced . . . easy to install.

SOLD THROUGH REGULAR CHANNELS OF TRADE

Distribution of American Blower Packaged Air Conditioners follows normal channels: factory-distributor-dealer/contractor-user. Direct inquiries are referred to your supplier, who'll pass them along to *you*. These *qualified* prospects mean *more* business.

QUALITY PRODUCT BACKED BY ENGINEERING AND RESEARCH

American Blower has been known and trusted as a leader in air conditioning and ventilation for over 76 years. You'll benefit from our reputation for quality products, engineering excellence, and continuing, basic research. Prestige like this pays off . . . helps you build air-conditioning sales volume.

NATIONAL AND LOCAL ADVERTISING AND SALES PROMOTION

Your prospects are *pre-sold* by hard-hitting national advertising in leading consumer and executive magazines, backstopped by full-range dealer advertising and sales promotion at the local level. So your customers *know* American Blower . . . *want* American Blower.

TRAINING SCHOOL

You and your installers can attend classes right at our Dearborn, Michigan, plant. Two 5-day courses in the application and servicing of packaged air conditioners are scheduled regularly. Both are conducted by skilled factory engineers in modern, fully equipped classrooms and laboratories.

HOW AMERICAN BLOWER IS BUILDING FOR THE FUTURE

New models — including a full line of air-cooled packaged air conditioners — are available now to help you satisfy the varied demands of this profitable, fast-growing market. Every unit is soundly engineered and fully pretested to meet the high quality standards of American Blower products.

FOR FULL INFORMATION: Write American-Standard,* American Blower Division, Detroit 32, Michigan.

BIG LINEUP OF NEW MODELS!

COMPETITIVE PRICES!

AMERICAN BLOWER BRANCH-OFFICE ASSISTANCE!

* American-Standard and Standard are trademarks of American Radiator & Standard Sanitary Corporation.

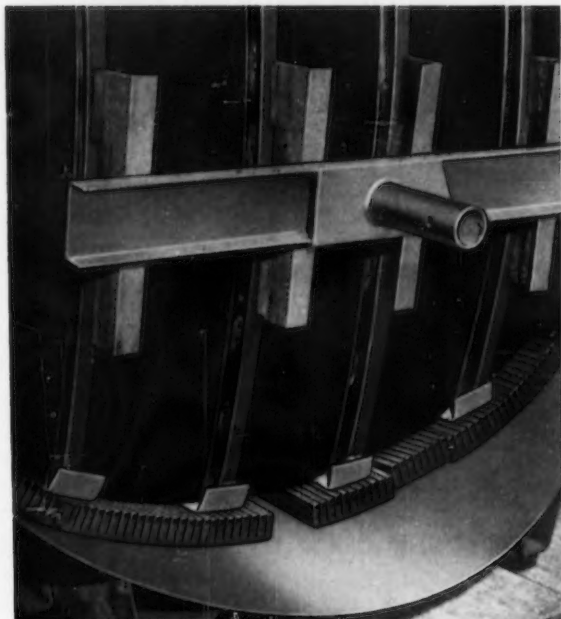


AMERICAN-Standard

AMERICAN BLOWER DIVISION

Circle No. 36 on Reader Service Card

Rubatex provides "built-in" temperature control — sanitation — additional payload!



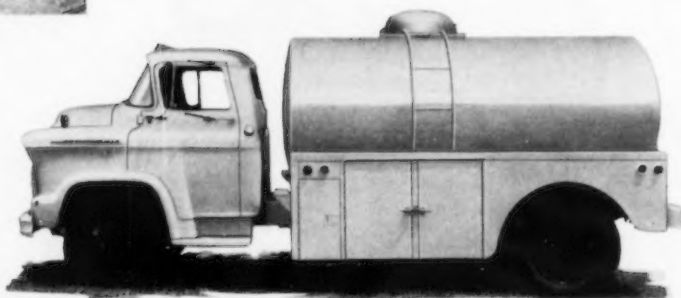
2" layer of Rubatex is applied between inner and outer shells of stainless steel milk tank. Rubatex is applied to inner shell with an adhesive between steel ring stiffeners used around inner tank. Thin layer of Rubatex also used over ring stiffeners—eliminating metal to metal contact. Outer shell is then wrapped around the Rubatex.

Rubatex answers need for careful temperature control in transporting milk as it has lowest heat conductivity (K Factor 0.21) of any known structural material and maintains its insulating efficiency indefinitely.

Rubatex's closed cellular structure also eliminates any possibility of bacterial growth between shells of tank—an important feature in handling liquid foods of any kind

Last—by no means least—Rubatex's light weight helps give Standard Steel Works one of the lightest farm pick-up tanks on road today — providing owner with an additional payload on his choice of truck.

In Standard Steel Works' own words: "After considerable investigation, we found Rubatex was the best low temperature insulation available anywhere."



Insulation efficiency, moisture and vermin proof qualities—plus extreme light weight—determined choice of Rubatex Insulation Hardboard as insulation for Standard Steel Works' 1700 gallon "Payloader" farm bulk pick-up tank.

**RUBATEX DIVISION, Dept. CR-8
GREAT AMERICAN INDUSTRIES, INC.
Bedford, Virginia**



For full details and sample of Rubatex Insulation Hardboard—print your name in space below, attach to your company letterhead and mail to us.

Name _____

RUBATEX
INSULATION HARDBOARD

Send for Free Sample and Complete Details

Circle No. 37 on Reader Service Card

NOW...You're Ready to AIR-CONDITION EVERY HOME with *Capitolaire*



FOR RANCH TYPE HOMES—Summer cooling with the Capitolaire out-of-doors air-cooled condensing unit, with flat coil and blower section in attic crawl-space. For use with any heating system. For description of unit, write for Form No. AC-874A.



FOR SPLIT LEVEL HOMES—A Capitolaire Water Chiller, with VRS Fan Coil Units in every room (for both heating & cooling). For description of Water Chiller, get Form No. AC-937; VRS Fan Coil Units described in Form No. AC-859.



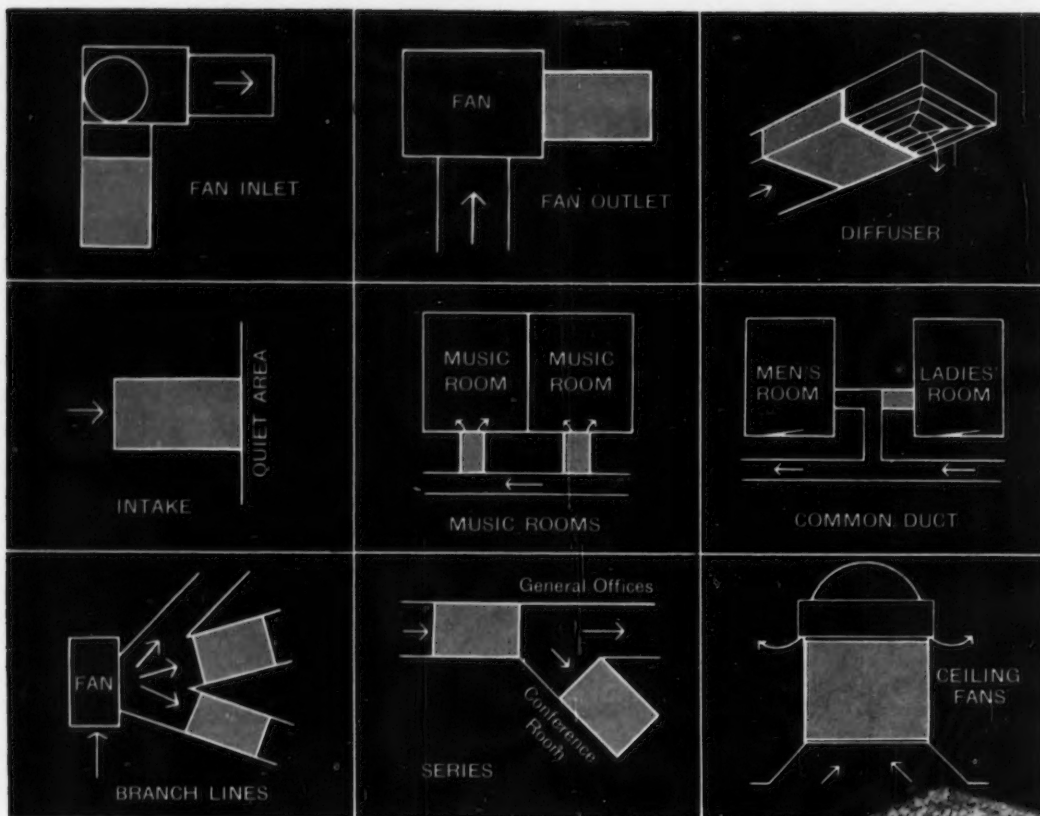
FOR MULTI-STORY OR REMODELLING—Capitolaire Model HER concealed Fan Coil Units on each floor, connected to a Capitolaire Water Chiller. Can also be used for heating. Water Chiller (Form AC-937); HER Units described in Form No. AC-797A.



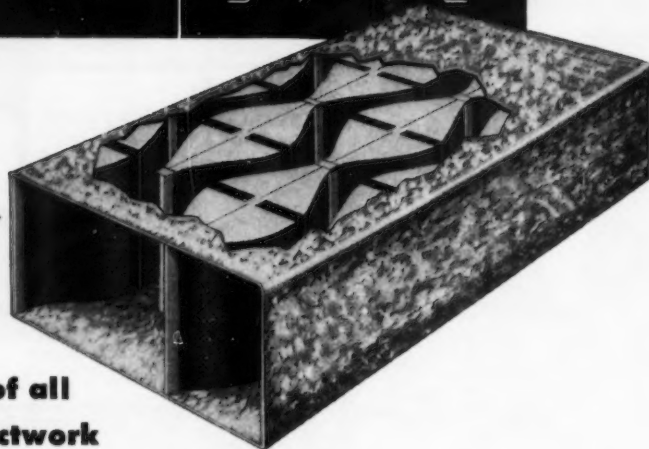
National-U.S. Radiator CORPORATION

HEATING AND AIR CONDITIONING DIVISION
Johnstown, Pennsylvania

Circle No. 38 on Reader Service Card



Every Building Needs *Aircoustat* Sound Traps



AIRCOUSTAT silences all noise of all frequencies traveling through ductwork

Eliminate disturbance, distraction and irritation caused by noises escaping from one area to another through ductwork.

Install AIRCOUSTAT Sound Traps. AIRCOUSTAT eliminates guesswork, wasted space and unnecessary expense of duct lining. You can guarantee your client trouble-free performance. You can estimate with complete confidence the perform-

ance of particular applications. If AIRCOUSTAT fits geometrically, it fits acoustically.

AIRCOUSTAT saves you space. Its greater effectiveness permits smaller-sized ducting. It eliminates bulky mufflers.

For more details, write to KOPPERS COMPANY, INC., Industrial Sound Control Dept., 7705 Scott Street, Baltimore 3, Md.



INDUSTRIAL SOUND CONTROL

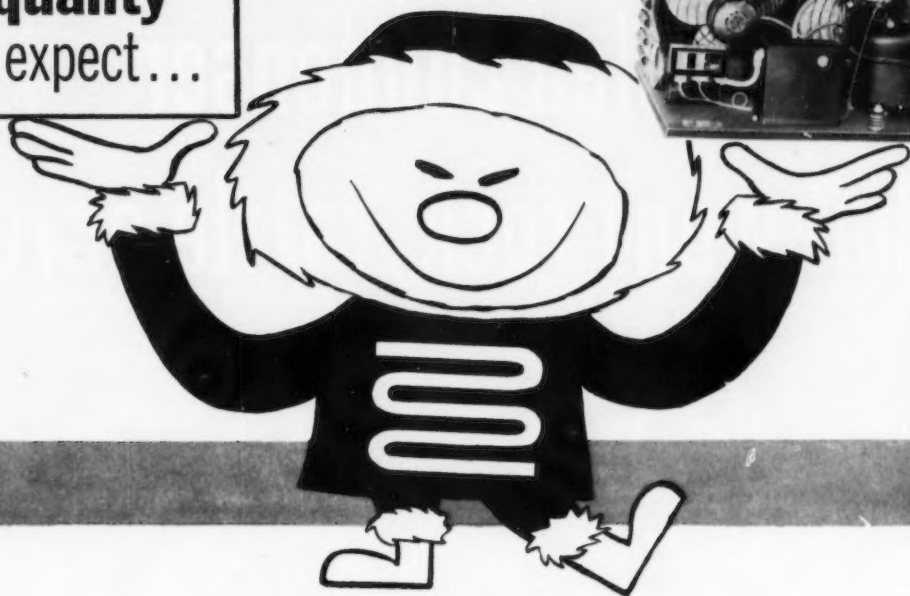
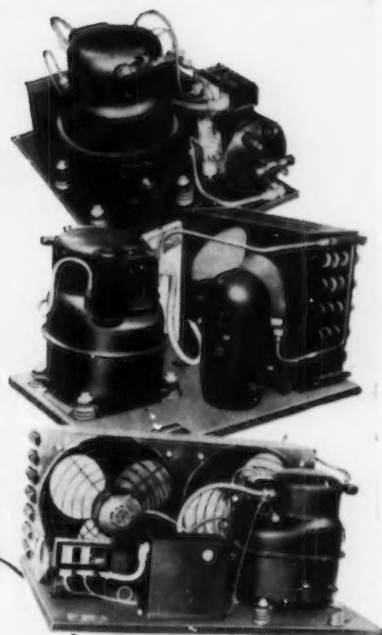
Engineered Products Sold with Service

Circle No. 39 on Reader Service Card

for the **size**
you need...

the **capacity**
you want...

the **quality**
you expect...



*...Specify **Lehigh!***

BLU-COLD HERMETIC CONDENSING UNITS

Any size, from 1/5 to 2 H.P.

for any application, commercial or industrial. Send for new 4-page catalog sheet.

Lehigh **condensing units**



LEHIGH MANUFACTURING COMPANY, Division of Lehigh, Inc., Easton, Pa.
Manufacturers of Open Type and Hermetic Condensing Units and Compressors.
EXPORT DEPT.: 13 East 40th Street, New York 16, N. Y.

Circle No. 40 on Reader Service Card



So Halstead & Mitchell engineers said . . .

"Here's an air-cooled condenser that won't rock, rattle or roar"



They planned it that way. H&M Air-Cooled Condensers had to be free of the vibrations, rattles and fan noise that plagued so many competitive models. And comments from contractors and users prove they hit their target.

The extra rugged casing won't loosen with use. Lock-tight construction avoids annoying rattles. Four-bladed, deep pitch fans are driven at slow speed for really quiet operation.

Halstead & Mitchell condensers are dependable, too. Large coil and exclusive Turbu-Flo design add more surface, improve heat transfer by up to 15%. Wide fin spacing prevents condenser clogging by dirt or other air-borne particles.

Designed for use with Refrigerants 12 or 22, H&M Air-Cooled Condensers are available in twelve mod-

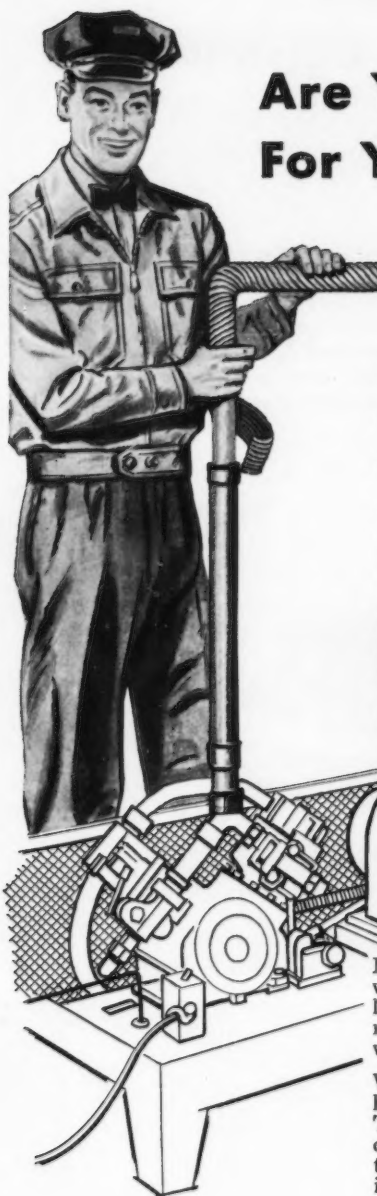
els, from 3 to 50 tons capacity. Floor or ceiling mountings. Multiple circuiting for specified requirements, at no extra cost. Centrifugal Fan models are available for inside installations requiring ductwork.

Ask for H&M Air-Cooled Condensers at your distributors, or write for literature. Halstead & Mitchell, Bessemer Bldg., Pittsburgh 22, Pa.



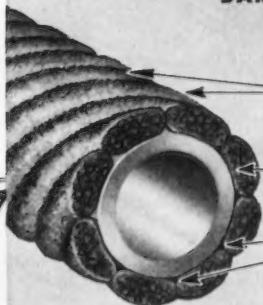
Air-Cooled Condensers • Cooling Towers • Water-Cooled Condensers • Finned Coils
Circle No. 41 on Reader Service Card

Are You Paying Premium Prices For Your Pipe Wrapping?



Now...cut costs, reduce inventories and profit more with the one standard insulation that fits every pipe and fitting, meets every service requirement!

THREE INSULATING BARRIERS in



1. OUTSIDE
Rough surface prevents free circulation of moisture-filled air — creates dead air barrier.
2. 1/4-INCH THICKNESS
Built-in moisture barrier assures utmost insulating efficiency.
3. INSIDE
Dead air is trapped between "corrugated strands", forms added insulation barrier.

NoDrip Tape means more profit, less work on every job . . . saves you time, labor, material. NoDrip Tape eliminates most multiple wrappings needed with thinner wraps . . . inferior wraps.

Why pay more when you can buy the handy 16 foot roll of 1/4" thick NoDrip Tape at less than half the cost of a roll of ordinary 1/8" wrapping...and far below the cost of pre-formed foam cellular insulations?

Next time an equipment cold line job

calls for permanent protection against condensation drip, "sweating" or frost, insist on using NoDrip Tape. Stops rust and corrosion, too . . . holds temperatures more constant and increases the efficiency of the cooling equipment.

NoDrip Tape is pliable, cork-filled and completely self-adhering. Easy to work with . . . forms an air-tight, 100% vapor and moisture proof jacket. Needs no tools, vapor seals, fasteners, brads or adhesives.

NO DRIP PLASTIC COATING... PROTECTION FOR BIG AREAS



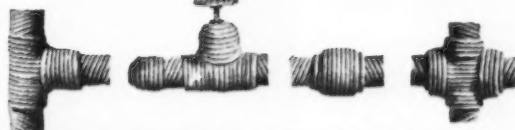
For large pipes, tanks, air ducts, we recommend NoDrip Plastic Coating for permanent protection from condensation, rust and corrosion. Another fine Mortell refrigeration product, NoDrip can easily be applied by brush or trowel to metal, concrete, brick, plaster, tile or composition surfaces.

JW Mortell
COMPANY

Makers of Mortite Caulking Cord and Mortite Caulking Gum

Easier to Apply...

EVEN AROUND JOINTS, TEES, VALVES OR ANGLES



J. W. Mortell Company, Dept. 3
553 Burch St., Kankakee, Ill.

O.K. I Send me full information about the complete line of Mortell refrigeration products.



I'm a Jobber _____ Dealer _____ Serviceman _____
Name _____
Firm _____
Address _____
City _____ State _____

All-Air High Velocity System

provides versatile, draftless air conditioning

for Smith-Douglass

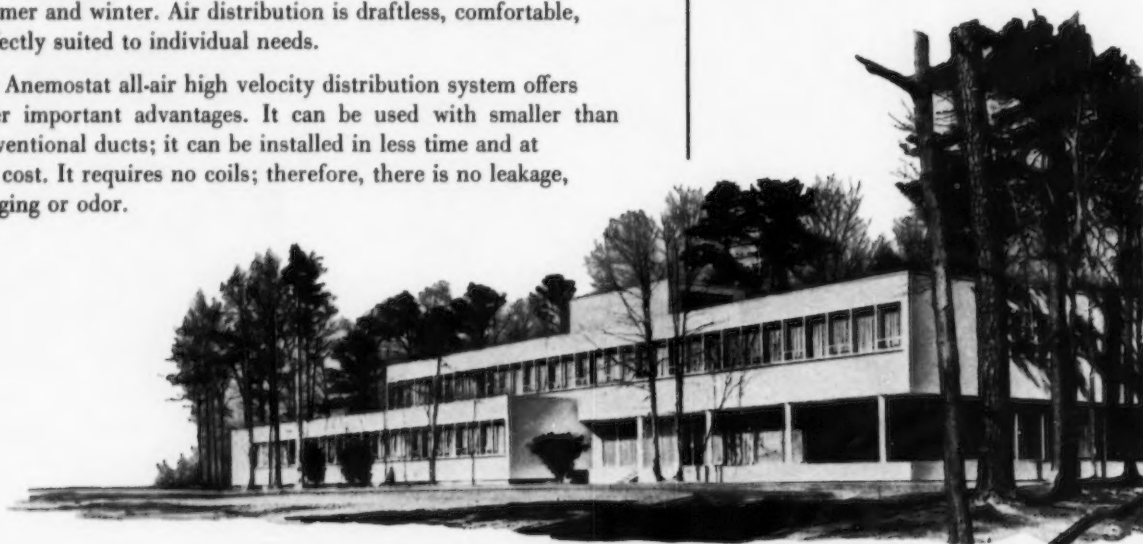
The new office building of the Smith-Douglass Company, leading fertilizer manufacturer, is fully air conditioned with a dual duct Anemostat all-air high velocity system.

Conditioned air is supplied to the Anemostat all-air high velocity units through two parallel ducts—one carrying cold air and the other warm air. The all-air high velocity units draw air from both ducts in any desired proportion to meet the temperature requirements for each area in both summer and winter. Air distribution is draftless, comfortable, perfectly suited to individual needs.

The Anemostat all-air high velocity distribution system offers other important advantages. It can be used with smaller than conventional ducts; it can be installed in less time and at less cost. It requires no coils; therefore, there is no leakage, clogging or odor.

ARCHITECTS— Attention Please!

Anemostat round, square and straight-line diffusers used with high velocity units can be adapted to a wide variety of architectural designs.



This modern structure is located in Princess Anne County near Norfolk, Virginia.

Architect:
T. David-Fitz-Gibbon,
Norfolk, Virginia

Design Consultant:
Thaddeus G. Crapster,
New York.

Consulting Engineer:
J. Robert Carlton,
Richmond, Virginia.

General Contractors:
Doyle & Russell, Norfolk,
Virginia.

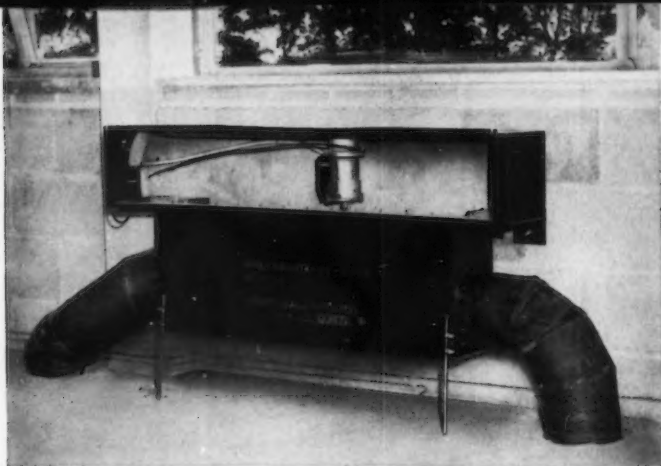
Mechanical Contractors:
B. & G. Olsen Company,
Richmond, Virginia.

Anemostat all-air units form an integral part of the interior design and can be easily combined with built-in cabinets or bookcases.

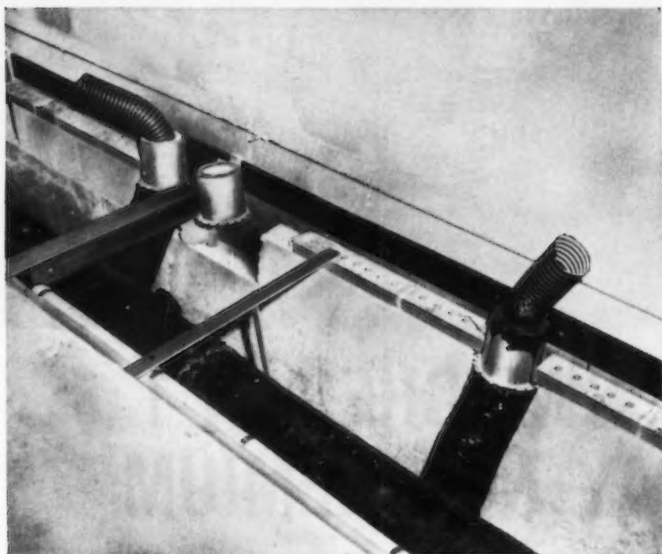


Circle No. 43 on Reader Service Card

REFRIGERATION & AIR-CONDITIONING



Anemostat UTW units before being enclosed.



Typical take-offs from main supply duct located in the floor. High velocity ducts can be buried in the floor.



Air is perfectly distributed in large meeting room by means of Anemostat ceiling air diffusers.



Meeting room of the Board of Directors.

↓ Note Anemostat ceiling and under-the-window units.



Write on your business
letterhead for your copy of
Anemostat®
Selection Manual 60

ANEMOSTAT CORPORATION OF AMERICA
10 East 39th Street, New York 16, N. Y.

Anemostat: The Pioneer of All-Air High Velocity Systems



Series 272 and 1272 single function control available for either low or high pressure. Also temperature models.

Series 273 and 1273 dual function control. Lockout and manual reset available for either low or high pressure cut-out. Also temperature models.

EACH IS 2 SWITCHES IN 1 YET YOU PAY NO PREMIUM

LOOK AT THESE ELECTRICAL RATINGS SERIES 272, 273 PRESSURE CONTROLS without external adjusting knobs

Motor Ratings	Single Phase			Two and Three Phase			
	115 V.	208 V.	230 V.	208 V.	230 V.	440 V.	550 V.
A.C. Full Load Amps.	18.4	13.8	12	3 H.P.	3 H.P.	3 H.P.	3 H.P.
A.C. Locked Rotor Amps.	110.4	82.8	72	—	—	—	—
D.C. Full Load Amps.	4.6	—	2.3	—	—	—	—
D.C. Locked Rotor Amps.	46	—	23	—	—	—	—
A.C. Non-Ind. Amps.	24	24	24	—	—	—	—
D.C. Non-Ind. Amps.	3	—	0.5	—	—	—	—

Pilot Duty — 125 VA.; 115 to 600 V. A.C.
57.5 VA.; 115 to 600 V. D.C.

SERIES 1272, 1273 PRESSURE CONTROLS Single or dual function

Motor Ratings	Single Phase			Two and Three Phase			
	115 V.	208 V.	230 V.	208 V.	230 V.	440 V.	550 V.
A.C. Full Load Amps.	24	24	24	16	15	7.5	6
A.C. Locked Rotor Amps.	144	144	144	96	90	45	36
D.C. Full Load Amps.	4.6	—	2.3	—	—	—	—
D.C. Locked Rotor Amps.	46	—	23	—	—	—	—
A.C. Non-Ind. Amps.	24	24	24	—	—	—	—
D.C. Non-Ind. Amps.	3	—	0.5	—	—	—	—

Pilot Duty — 125 VA.; 115 to 600 V. A.C.
57.5 VA.; 115 to 600 V. D.C.

Penn 2-pole refrigeration controls handle polyphase motors without the use of magnetic starters

Here's real application versatility and advantages. With these controls, cost of contactor is eliminated if motor has built-in overload protection. If motor requires external overload protection, the motor starter can be replaced by the more economical "manual starter." So... in either case, these Penn controls *save you money!*

With their two separate circuits, each control is really 2 switches in 1. Two separate load circuits can be controlled. When wired as a 2-pole switch in single phase circuits, it always breaks the "hot" line. On 3-wire, single phase A.C. systems, it can control simultaneously a 230 volt compressor motor and a 115 volt fan motor, solenoid valve or other device.

So, don't settle for less. Ask your wholesaler for Penn... the refrigeration and air conditioning industry's favorite control.

PENN CONTROLS, INC.

Goshen, Indiana

EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N. Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES
Circle No. 44 on Reader Service Card

Protect Customers — Build Sales

THERE is only one thing worse than not owning air-conditioning. That is owning air-conditioning that doesn't work.

Ever since I have been in the air-conditioning business, the month of May has meant more prospects and more sales. But it also is the time of year when most owners throw the switch and expect their air-conditioning to start producing the benefits for which they bought it.

In every area of the country there are more air-conditioning units installed and in use than ever before. Nationally, there are about 765,000 water cooled packaged units, some 375,000 air cooled units, and approximately 8,350,000 room air-conditioners in operation.

Almost all units sold in the past four years carried a manufacturer's warranty of five years on either the compressor or the entire refrigeration cycle. This warranty protects the owner to a certain degree as far as cost of parts is concerned. But it does not guarantee him that these parts, or the trained manpower to diagnose and repair the trouble, will be available when needed.

The great number of brand names sold, the tremendous variety of different models in use, and the constantly changing patterns of product distribution in the past few years, all have combined to bring about a confusing parts and service situation.

Too many manufacturers have failed to insist upon adequate repair parts inventory by their wholesalers, distributors or dealers. In fact, some manufacturers have failed to maintain an adequate inventory themselves.

The reputation of the product and the people selling the product is always at stake. Lack of prompt and effective service can seriously jeopardize this reputation.

Last year's cool weather in many parts of the country unquestionably held down the level of product failures. But consistent hot weather (which every one of us looks forward to this year) will inevitably result in many, many cases of equipment breakdown and consequent interruption of air-conditioning performance.

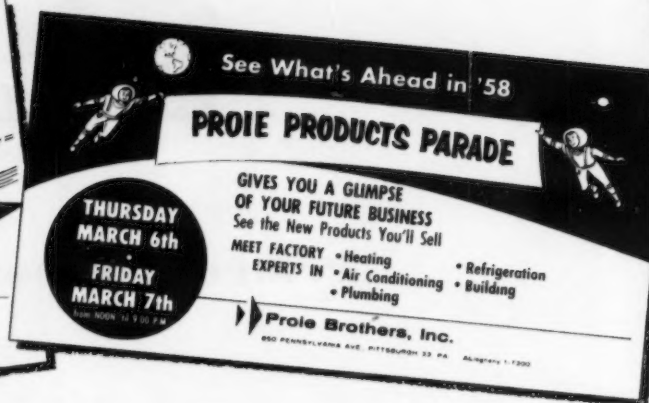
Every member of the distribution chain — from the manufacturer to the dealer — should take stock of his parts supply and service personnel now.

Protecting your present customers is the best way to acquire the kind of a reputation on which you can build future sales.

Good luck and good selling.

Thom Muir

EDITOR'S NOTE: Thom Muir invites you to write him regarding any sales problem that you might wish him to discuss. Address your letters to him in care of this magazine.



This Distributor Stages

MANY DEALERS CAN'T ATTEND all the national trade shows important to them. Some don't have the time. Some don't have the money. Others feel that they just can't tear themselves away from the daily routine long enough to make the trip.

Every distributor, on the other hand, wants all of his dealers to have the latest information on the products he sells.

Proie Brothers, Inc., of Pittsburgh, Pa., has managed to resolve this dilemma by staging its own trade show each year for its entire dealer organization.

The 1958 Proie Products Parade, third show of its kind, attracted more than 500 dealer representatives to the company's auditorium and display rooms. Here they saw some of the latest in air-conditioning, heating, and refrigeration equipment displayed by more than 30 manufacturers. Roofing and plumbing products handled by Proie also were shown.

Attractive booths, some of which had been used in national shows, were brought in and manned by factory personnel. Each exhibitor is charged a nominal cost per square foot of booth space. Promotional costs are shared on a pro-

rated basis between Proie and the participating suppliers.

Show hours were from noon till 9 p.m. during each of the three days. The first day was a special preview for architects, engineers, builders, building inspectors, and students.

Dealers attending saw a variety of interesting exhibits, and learned of new product developments from factory experts. Door prizes were given every two hours during the day. A continuous buffet was in operation during show hours.

Out-of-this-World Promotion

Advance promotion used the theme, "What the Future Holds." Cartoon-type illustration on all printed material followed a "space age" theme.

All outgoing correspondence and dealer mailings carried the announcement of the parade. Colorful banners were placed throughout Proie's reception room and counter and shipping areas. All company trucks displayed a special poster describing the show. A separate direct mail campaign sent a series of 2-color invitation cards to dealers, builders, and architects.

All guests were given name tags,

scratch pads, and ball point pens as they registered.

A Proie salesman was assigned to escort each dealer. "Of course, during peak evening hours this practice could not be followed as closely as we wished," says Edwin I. Baime, advertising and sales promotion manager of Proie. "Nevertheless, most guests were greeted personally by some member of our management.

"We feel the show gives dealers an unusual chance to see many related products in their field at one time," Baime explains. "We have approximately 5000 sq. ft. of space in our auditorium and display rooms to house the show.

"Attendance has been extremely high in our three shows. Increased sales have fully justified such an event.

"In addition to our own customers who attended the show, we were flattered to welcome many of our competitors and their representatives," Baime declares.

"It has long been our philosophy that distributors in our business would do well to do all they can to communicate freely and openly among themselves. Eventually, we feel, closer alliances with others in



GLIMPSE OF THE FUTURE was offered dealers, builders, and architects on these attention-getting cards inviting them to attend the 1958 Proie Products Parade. Cartoon-type illustrations were keyed to the "space age" theme.

a Trade Show for His Dealers

our field will do much to upgrade policies and practices in the whole industry.

"We sold quite a lot of merchandise during the show, and we also passed out a great deal of information. This is a basic purpose of the show. Dealers get an excellent chance to meet factory representatives and to ask questions of the people who really know the answers.

"The manufacturers, in turn, have the chance to get their story across and build a great deal of valuable good will in the trade. As one manufacturer's representative said to me, 'I don't think I've done as much to sell my product to you all year as I've been able to do in these two days. By speaking directly to your dealers, I've really cleared the way for your salesmen.'

"One representative found that a piece of his company's literature was misleading to the trade. As a result, the product was being used

incorrectly, and was causing trouble. As this man said, 'How else, except through meetings like these, can we discover our mistakes?'

"Special forums also are held during the show on merchandising and sales problems of dealers," Baime continues.

"We even offer the services of a

certified public accountant to discuss tax problems. Our attorney also attends the show to talk about contracts."

Show guests are entertained by hi-fi music pouring out of Proie's public address system. Announcements calling attention to special

Continued on page 131



POSSIBLE SALE? Candid shot shows product interest created when Proie staged its third annual dealer show.



Here's Your Market for

Automatic

ARE YOU SURE YOU KNOW THE MARKET for automatic ice machines? There may be many businesses that use large quantities of ice without your being aware of it. To make sure you're cashing in on every merchandising opportunity for automatic ice machines, check over this list of prospects very carefully.

Service stations. With the steady increase of portable coolers used by tourists, there is a natural tie-in for the automobile service station. It can offer a customer gas for his car and ice for his cooler in the same stop. Service stations operators surveyed by one manufacturer reported that selling ice cubes has increased gasoline sales as well as producing extra profits directly from the sale of ice.

Package liquor stores. In some areas, because of state restrictions, package liquor stores are restricted in promotion techniques. Some dealers give cubes to the customer without charge, others charge a nominal fee per bag. One of two systems is generally used—either the customer helps himself, or else the clerk scoops the cubes into an insulated bag or into a plastic bag imprinted with the name and address of the store. Offering ice cubes can give a store a definite edge over its competitors, and this practice generally is not prohibited by any legal restrictions.

Ice Makers

Theaters (drive-in and indoor). The concession operation at a drive-in theater does 75% or more of its business during the 10 to 20 minutes intermission. Many drive-in concessions have gone to the large 20 or 25¢ size drink which needs a lot of crushed ice. Since not much more beverage is required for the large drinks, the profit margin is considerably larger. Many operators have found that the large drinks move as well as the smaller ones. Merchandising soft drinks in indoor theaters is gaining steadily, following the drive-ins' success. Crushed ice is generally preferred, to provide faster cooling and makes each sale move profitable. More ice and less beverage in the drink satisfies patrons because they are primarily interested in a cold drink.

Restaurants. Restaurants use cubes as an advertisement of a clean, well-run eating place, since a glass of water is the first thing placed before a customer. Many restaurants use cubes to pre-ice glasses in preparation for rush periods. Some use crushed ice in water, soft drinks, cocktails, hors d'oeuvres, salads, iced coffee and iced tea. Crushed or flake ice is also used in serving dishes such as grapefruit or shrimp.

Cafeterias. Crushed ice in cafeterias has increased sales of items such as salads, cold plates, beverages, *Continued on page 61*

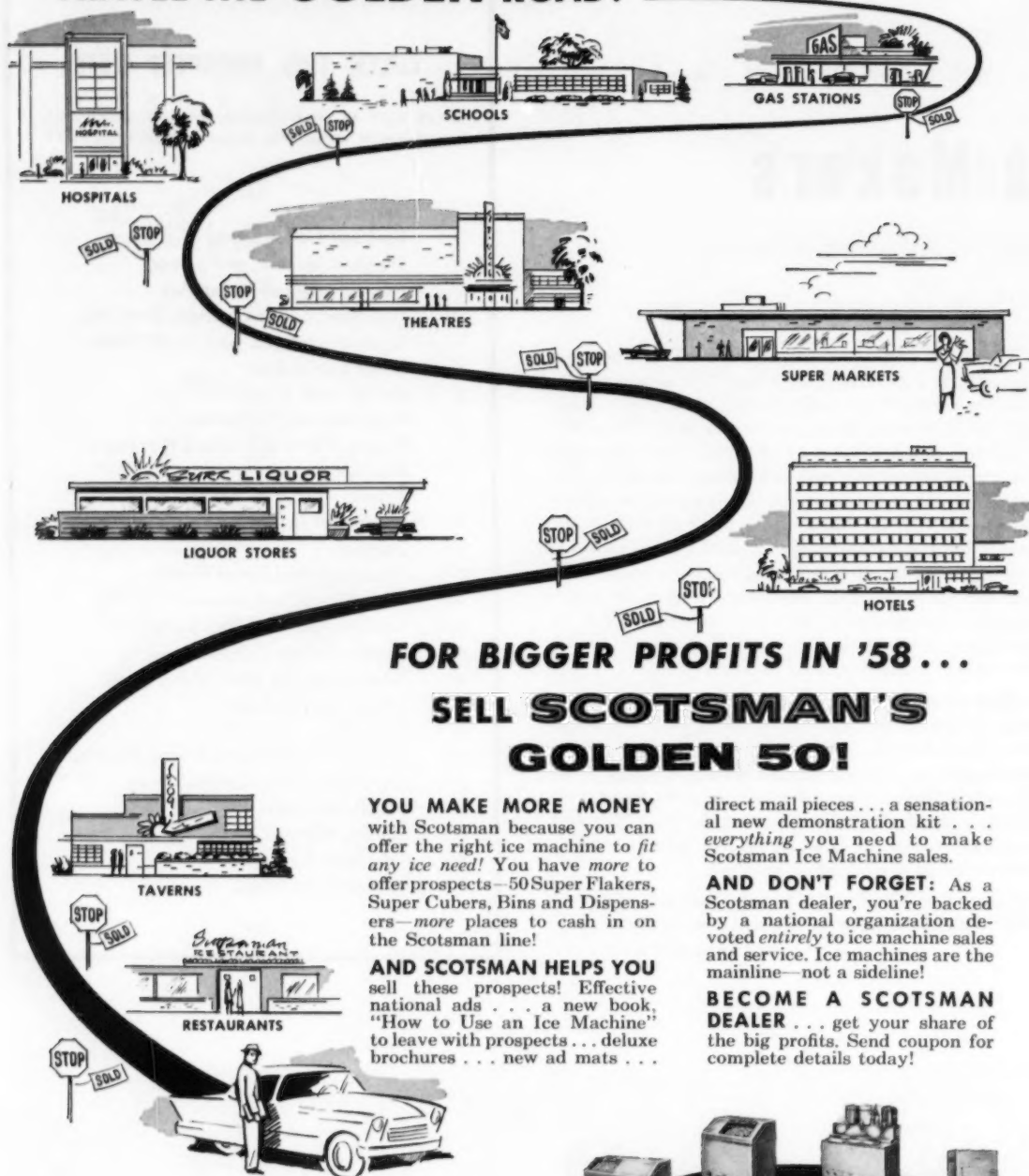
CHECK THIS PROSPECT LIST!

Every type of establishment listed is a prospect for automatic ice makers. How many have you sold?

- ✓ Service Stations
- ✓ Package Liquor Stores
- ✓ Theaters (drive-in and indoor)
- ✓ Restaurants and Cafeterias
- ✓ Fountains, Lunch Counters, Drive-Ins
- ✓ Cocktail Lounges, Bars, Night Clubs
- ✓ Clubs and Lodges
- ✓ Hotels and Motels
- ✓ Hospitals and Institutions
- ✓ Poultry, Fish and Seafood Processors
- ✓ Butchers
- ✓ Bakers
- ✓ Food Markets
- ✓ Dairies
- ✓ Wholesale and Retail Florists
- ✓ Laboratories and Research Centers
- ✓ Service Clubs and Post Exchanges
- ✓ Transportation Companies
- ✓ Resorts, Camps, and Fishing Docks
- ✓ Schools and Colleges
- ✓ Churches
- ✓ Catering Services and Inplant Feeding
- ✓ Department and Variety Stores
- ✓ Amusement Parks
- ✓ Bowling Alleys
- ✓ Petroleum Pipelines
- ✓ Bottling Companies



TRAVEL THE GOLDEN ROAD!



FOR BIGGER PROFITS IN '58...

SELL SCOTSMAN'S GOLDEN 50!

YOU MAKE MORE MONEY with Scotsman because you can offer the right ice machine to fit any ice need! You have more to offer prospects—50 Super Flakers, Super Cubers, Bins and Dispensers—more places to cash in on the Scotsman line!

AND SCOTSMAN HELPS YOU sell these prospects! Effective national ads... a new book, "How to Use an Ice Machine" to leave with prospects... deluxe brochures... new ad mats...

direct mail pieces... a sensational new demonstration kit... everything you need to make Scotsman Ice Machine sales.

AND DON'T FORGET: As a Scotsman dealer, you're backed by a national organization devoted entirely to ice machine sales and service. Ice machines are the mainline—not a sideline!

BECOME A SCOTSMAN DEALER... get your share of the big profits. Send coupon for complete details today!

Send me complete information about a dealer franchise for Scotsman Ice Machines.

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Mail to:

SCOTSMAN — Queen Products, Inc. 195 Front Street, Albert Lea, Minn.
Subsidiary of KING-SEELEY Corporation



Circle No. 45 on Reader Service Card

REFRIGERATION & AIR-CONDITIONING

fruit, butter, and chilled desserts. Some cafeteria operators have placed ice machines next to the water fountains, so that customers may serve themselves.

Fountains, lunch counters and drive-ins. The majority of these establishments use crushed ice. Fast cooling is imperative to achieve the high rate of patron turnover necessary. Also, crushed ice can reduce the cost of fountain drinks as much as 25%. In satisfying a customer; the amount of ice used is as important as the amount of beverage. The drink must cool in a few seconds. Some operators have created additional carry-out business with ice displays.

Cocktail lounges, bars, night clubs. The solid cube is the most highly regarded in this field, since it displaces more liquor, and generally will not melt as fast. Surveys show that patrons are more likely to re-order when the ice has not melted before the drink is consumed.

Clubs, lodges, or posts. They use cubes for drinks as do the cocktail lounges, bars, or night clubs. Guest satisfaction here is very important since they depend almost entirely upon business from regular members.

Hotels. Some hotels locate a machine on each floor for room service. This can speed up guest service, and lessen the danger of running out of ice in a bar or dining area. Also a battery of smaller machines is generally more economical to operate than a large central plant. The ice machine is an important consideration in assuring guest satisfaction.

Motels. Motels have begun to offer many guest services available in hotels, including ice service. Some locate an ice machine in a service room with soft drink dispensers, cigarette machines, and other vending devices. Others place the machines in a kitchen or area adjacent to the office, so guests can get ice through the office whenever they want it.

Hospital and institutions. The tendency in such establish-

Continued on page 132



A DECORATIVE FACADE of hardwood strips combines with a false ceiling to completely conceal this air-conditioning installation, either from outside or in.

No Floor Space Wasted Here

COMPLETELY AIR-CONDITION a store where there is no basement, where the roof cannot be used for placement of equipment, and where no space is available outside the wall for building an enclosure. This was the problem handed O. T. Jensen, an air-conditioning dealer in Boulder, Colo.

The shop to be conditioned was a jewelry store in a 75 x 55' corner building. In studying plans of the store, Jensen noted that it had an old fashioned 14' ceiling. The owner told Jensen that he planned to install a drop ceiling which would lower the original one about 6'.

Jensen prepared for the owner a plan recommending installation of a soffit between the original ceiling and the drop ceiling. This would make possible the installation of two package units above the drop ceiling, one at either side of the front of the store. Ductwork then could be run throughout the store, also above the drop ceiling. In this way the entire installation would be concealed.

While installation of the soffit was an expensive project, Jensen sold the idea in terms of lower maintenance costs, better air distribution, and more attractive appearance of the store interior.

The soffit was constructed of panels supported in a steel framework. It ran some 65' across the width of the store, and extended back about 32' from the front wall.

Two package air-conditioners were installed behind the decorative hardwood strips that form a facade along the outside of the store front. The facade was arranged to provide ready access to the front of the air-conditioners. This permits changing filters, inspection of the equipment, or any necessary repair without entering the store.

A network of 12 x 10" ducts, insulated with glass fiber, carries the conditioned air to 15 outlets throughout the store. Special attention was given the high-heat-load areas in planning this air distribution system.

by Robert Walsh

assistant editor

Editor: Walsh has spent several years working for advertising agencies both large and small. He knows what agencies have to offer, but he also is aware of their limitations.

In writing this article, he has combined this personal knowledge of the agency field with opinions and comments offered by a number of air-conditioning and commercial refrigeration dealers, distributors, and contractors with whom he discussed this controversial question.

His observations can guide you in planning and carrying out your own advertising program.

EFFECTIVE ADVERTISING and sales promotion can accomplish three things: (1) arouse interest; (2) create a preference; (3) create a desire. These three steps must be taken before any sale can be made. Well planned advertising can do the job far more economically than a salesman.

Knocking on doors to locate potential customers is still a good way to stimulate business, but advertising is more economical and quicker. Imagine how much it would cost to send a salesman to call on every prospect who sees your ad in a newspaper, hears your radio announcements, or reads the direct mail pieces you send out.

By using advertising to stimulate interest, preference and desire, you are keeping ahead of competition that does not advertise. Even more important, you are keeping pace with those that do advertise. Also you are giving yourself and your salesmen more time to make presentations and close orders.

**advertising
is for experts**



If you're sold on the value of advertising, your problem is to decide how to go about it. Should you employ an advertising agency or try to handle the job yourself?

Don't be fooled into thinking that you can do as good a job of preparing advertising material as the man who makes his living at it. He is an expert in his business, as you are in yours.

Besides knowing how to prepare copy and layouts, a good advertising man knows how to shop for bargains.

should YOU use

He knows the best time to reach the largest audience at the lowest cost, whether it's radio or TV time, or newspaper space. He also knows how to get the best mailing lists at the lowest cost. And because he is in the business, he can get these things when they may seem inaccessible to the layman.

Also, many manufacturers have been known to make extra money available for promotion when they are shown a professionally planned program.

**which is best —
agency or ad man?**



The right advertising agency can do a good job for you in preparing your advertising and sales promotion, and helping you set up a program to fit your budget.

An agency can give you another contact with your dealers by helping them place advertisements and plan displays that feature *your* products. Most agencies charge for these services on a time basis. In planning your budget you should allow for this.

The alternative is to have someone in your own organization handle this dealer-contact phase of your program. One of the major advantages of using an agency is that, as a third person, the agency can dispel the dealer's fears that he will have to put extra units on his floor to get this help.

**select an agency
that can help you**



If you decide to use an agency, you should be careful in choosing one that can help you. Talk to several agencies, but make sure they are recognized. The best proof of this is their membership in the American Association of Advertising Agencies. If they are not mem-

an Advertising Agency?

bers, check on them through the advertising department of a local newspaper or radio or TV station.

Ask to see a client list. Make sure that the agency does not handle any of your competitors, but make sure it is not completely removed from your type of business. Try to select an agency that has clients selling other products to your market.

If possible, select an agency which has someone on its staff who has a background in your business. Unless a copywriter knows something of your business, the best he can do is generalize. Also, the more they know of your problems, the less time and money you will have to spend in training them.

A large agency may tell you that it can offer you the benefits of group thinking, and its creative staff can offer you better copy and advertisements. While this may be true, you pay for these services.

Also, at a large agency, unless your budget is as large as some of the other clients', the top creative men will not be able to spend much time working on your account.

At a smaller agency, on the other hand, you may be able to draw on the top talent. And it may be as good as that of a large agency.

**like you, agencies
work to make money**



You may have heard that an agency doesn't cost you anything. If an agency buys space or time, the media (newspapers, radio stations, etc.) allow 15% commission. This is the amount allowed by most media to recognized agencies. If you were to buy space or time yourself you would not be allowed this commission.

But before that advertisement appears, copy must be written, layouts have to be made, type must be set, artwork has to be prepared, and engravings have to be made. The agency handles all these things and is billed by its suppliers. The agency will then bill you plus 15 to 20%. This money covers the cost of preparing and placing the advertisement. Generally it is worth this extra money to have the agency handle the entire job.

Another method of compensation for agencies is the fee basis. This is generally used when a client needs agency services but buys little or no space, eliminating the 15% commission.

The fee basis simply means that you pay the agency a predetermined amount every month. This buys the time of the agency people you need. This system usually does not eliminate the 15 to 20% added to bills submitted by the agency for production work.

An advertising agency, like any other service, does cost you money. But it can be money well spent.

**what services
can you expect?**



Some agencies make a practice of putting their creative people to work in a client's shop for two weeks every year. They feel this is the only way to make their people aware of the client's problems. And a good agency will completely absorb itself in your sales problems.

An agency should advise you on the best and most practical ways to reach your prospective customers with the budget you have allotted.

It should work with you in planning and executing all your advertising, sales promotion, and public relations programs. It should keep you informed of all current surveys, trends, opinions and any other important information that might affect your business.

Don't hire an agency and expect it to print your letterheads or business cards. You can do this yourself—and save money—by working with a local printer who specializes in that business. However, an agency should review your letterheads, billheads and business cards, and design new ones for you if necessary.

Don't expect an agency to do something for nothing. It is in business to make money, just like every other firm.

Advertising agencies specialize in the ingredients that stimulate interest, preference and desire. Their experience can help you gain more prospects and customers for your advertising dollars.

You Can Break The Wiring Bottleneck

by rewiring in existing conduits

by Edward Dowis

MANY AN AIR-CONDITIONING JOB has been stymied by the fact that existing electrical wiring was inadequate to carry the increased load that the air-conditioning equipment would impose. Many times the decision as to whether or not to install air-conditioning, or as to what kind of system to use, hangs upon a proper solution of this wiring problem.

This is particularly true in the case of expensively decorated residences, apartments, and hotels, where any surface wiring or channeling of plaster would not be tolerated.

What's the answer in such cases? Rewiring in existing conduits may be just the solution that will help you save the sale.

Conduit has been the prevailing wiring method for large buildings for more than 30 years. Any building wired in conduit according to the National Electric Code has capacity for additional load in existing conduit. This is because the code permits more or larger wires in these conduits than have ever been allowed for new work.

This is permissible where it is impractical to increase the size of a raceway due to structural limitations. Development of building wire with approved insulation and small overall diameter makes pulling of more or larger wires relatively simple.

Capacity of wires, as limited by the code, is listed in amperes and is based upon temperature rise when carrying the rated amperage. The horsepower which a given number and size of wires will transmit, within ampere limits set by the code, is determined by the voltage and wiring system and by the efficiency and power factor of equipment.

The data sheet presented here, shows the number and sizes of wires permissible "for rewiring in existing

raceways for increased load where it is impractical to increase the size of the raceway due to structural limitations". Wire sizes listed are not shown in the code but conform to the percentage of conduit area which wires are permitted to occupy. This table is for the popular type T or TW thermoplastic insulated wires.

Ampere capacities of wires, listed in column 3 of the table, vary with the number of wires in a conduit. A No. 8 wire has a capacity of 40 amperes with two or three wires in a conduit. With four to six wires the capacity is reduced to 32 amperes, and with seven to nine wires it is cut to 28 amperes.

Similar variations are shown for other wire sizes. They are due to overall temperature rise when wires are carrying their rated capacities.

Columns 4 through 8 show maximum capacities, in kilovolt amperes, of different sizes of conduits with usual voltages and wiring systems. To find kilovolt amperes in a single phase system, simply multiply volts x amperes and divide by 1000. To find kilovolt amperes in a three phase system, multiply volts x amperes x 1.73.

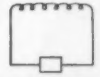




For practical calculation, horsepower can be taken as a percentage of kilovolt amperes. This percentage varies with the size and phase of a motor. The table below the capacity chart shows the decimal multiplier which will give horsepower from kilovolt amperes. This table is for motors of average speed and characteristics and is based on the fundamental formula:

$$HP = \frac{KVA \times \text{EFFICIENCY} \times \text{POWER FACTOR}}{.746}$$

* Efficiency is the ratio of power output to input. Power factor is the ratio of actual power input in

Continued on page 129

MAXIMUM CURRENT, KVA AND HORSEPOWER POSSIBLE BY REWIRING IN EXISTING CONDUIT

CONDUIT SIZE	NUMBER AND SIZE OF WIRES Type TW	AMPERE CAPACITY	KILOVOLT-AMPERE CAPACITY				
			115 V 2 wire 	230 V 2 wire 	115-230 V 3 wire 	230 V 3 phase 3 wire 	120-208 V 3 phase 4 wire 
1/2"	2 # 8	40	4.6	9.2			
	3 # 8	40			9.2	15.9	
	4 # 10	24	5.52	11.04			8.64
	6 # 10	24	14.29	16.56			
	8 # 12	14	6.44	12.88			10.08
	9 # 14	10			6.9	11.94	
3/4"	2 # 6	55	6.32	12.64			
	3 # 6	55			12.64	21.88	
	4 # 8	32	7.36	14.72			11.51
	6 # 8	32	11.04	22.08	14.72	25.46	
	8 # 10	21	9.66	19.32			15.12
	9 # 10	21			14.49	25.08	
1"	2 # 2	95	10.92	21.84			
	3 # 4	70			16.1	27.35	
	4 # 6	44	10.12	20.24			15.83
	6 # 8	32	11.04	22.08		25.46	
	8 # 8	28	12.83	25.67			20.14
	9 # 8	28			19.32	33.42	
1 1/4"	2 # 1	110	12.56	25.3			
	3 # 1	110			25.3	43.76	
	4 # 2	76	17.98	34.96			30.14
	6 # 4	56	19.32	38.64	25.76	44.36	
	8 # 6	38	17.47	34.95			27.34
	9 # 6	38			26.22	45.36	
1 1/2"	2 # 0000	195	22.92	45.85			
	3 # 000	165			37.95	65.65	
	4 # 0	100	23	46			35.98
	6 # 2	76	26.22	52.44	34.96	60.48	
	8 # 4	49	21.54	45.08			39.
	9 # 4	49			33.81	58.5	
2"	3 # 0000	195			44.85	77.85	
	4 # 0000	132	30.36	60.72			52.89
	6 # 00	116	40.02	80.04	53.36	92.23	
	8 # 1	77	35.42	70.84			61.28
	9 # 2	66			45.54	78.78	

FOR LARGER SIZES OF CONDUIT, OR COMBINATIONS OF CONDUCTORS, 50% OF CONDUIT AREA MAY BE USED FOR CONDUCTORS FOR REWIRING IN EXISTING CONDUIT ONLY.

HORSEPOWER PER KILOVOLT AMPERE

Multiply kilovolt amperes by
these factors to get horsepower

Horsepower of motors	Single phase	Three phase
1/6	.33	
1/4	.38	
1/3	.40	
1/2	.45	.65
3/4	.47	.70
1	.55	.75
1-1/2	.62	.79
2	.72	.81
3	.77	.87
5	.77	.87

Mr. READI-FIN Joins Mr. READI-PAKT at

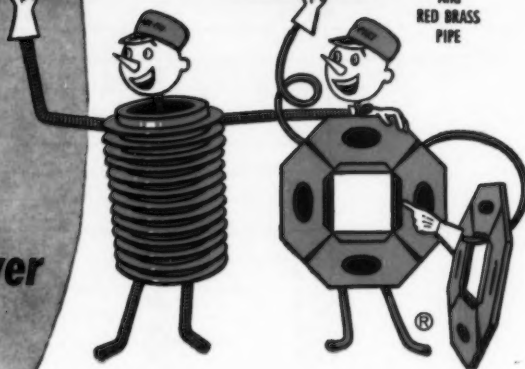
READING TUBE

**to Produce the Perfect Answer
to Heat Transfer and
Refrigeration
Problems**

READING
INTEGRAL-FINNED
TUBE

READING
COPPER BRASS
TUBE

And
RED BRASS
PIPE



For years, industries that make or use refrigeration or heat transference equipment have learned to depend on READING for more than just copper tube. They know READING "Lektroseal" as the product of Specialists whose entire facilities are concentrated on the fabrication of tubing and tubing alone, from raw material to finished product. That's why that important bonus of reliability goes with every inch of READING output.

Specialized research and engineering, specialized quality control and inspection assure products second to none. Strategically located depots eliminate the problems of time and space. Personalized service delivers exactly what is wanted exactly when it is wanted.

Pursuing its policy of specialization, READING has developed and added to its famous tube products, a line of heat transfer tubing that is setting new records in the field.

This tubing, made from one piece of copper, is known as Readifin. Its extruded-extended surface offers maximum heat transference, rugged construction, easy fabrication, freedom from fouling and it's available in Water Tube types with finned or plain ends and in Condenser Tube types with finned, plain or stripped ends. All types are worthy of READING, America's "Tubing Specialists".

For more detailed information — phone, write or wire

READING TUBE CORPORATION

Empire State Building, New York 1, N. Y. • Plant: Reading, Pa.

Distribution

READING, PA.

WOODSIDE, L. I., N. Y.

PHILADELPHIA, PA.

CHICAGO, ILL.

CLEVELAND, OHIO

DALLAS, TEXAS

Depots:

ATLANTA, GA.

OAKLAND, CALIF.

LOS ANGELES, CALIF.

DENVER, COLO.

HOUSTON, TEXAS

Brook Hollow

690 Murphy Ave.
S. W. Unit 5, Bldg. B

410 Hegenberger Rd.

120 No. Santa Fe Ave.

2845 Walnut St.

1121 Rothwell St.

Industrial District

Circle No. 64 on Reader Service Card

REFRIGERATION & AIR-CONDITIONING

PERFORATED HERE-CUSTOMER GETS ONLY RIGHT-HAND SIDE

CLERK WRITES HERE

[illegible]

This form helps Kentucky dealer

Cut Service Bookkeeping Costs

ARE YOU SURE you're not making your service customers angry when they receive an invoice? Are their names misspelled, or illegible? Are all charges itemized and easy to understand?

John N. Gillham, president, Air Conditioning Corp., Louisville, Ky. felt that he could improve service operations, make collecting service bills easier, gain better customer relations, and cut bookkeeping costs with a new invoice form.

Gillham felt that what his firm needed was one form that could be used from the time the customer called for service until the entry was posted on the accounts receivable books.

The form he devised to satisfy these requirements is made up of four carbons and an original. The purpose of each copy is imprinted in red. The original is marked "invoice," with a space for a number to be entered. The

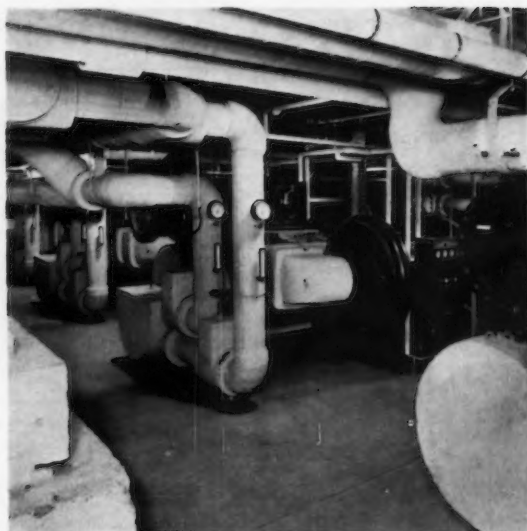
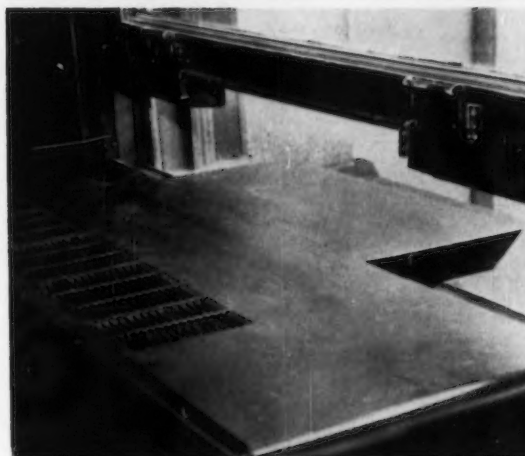
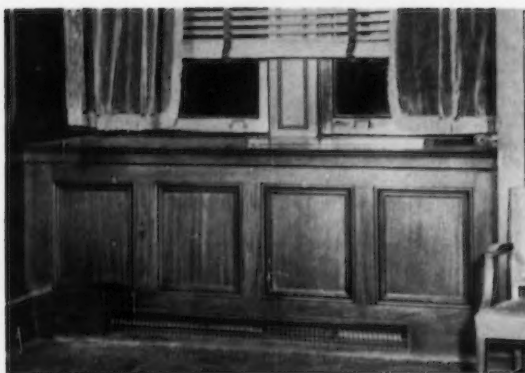
carbons are marked "duplicate invoice," "numerical file," "buyer's copy," and "job file."

The customer gets three copies. The buyer's copy is given to him at the time of the service call. The original and duplicate invoices are mailed to him when the job is billed. The dealer keeps the remaining copies for his job file and numerical file.

A clerk in the service department enters the customer name and address legibly in the block on the top right hand section of the form. This eliminates any possibility of the serviceman misspelling the customer's name.

When the serviceman makes the call he writes the date and customer's name and address on the left hand side of the form. This part is perforated, and is torn off so the customer never sees it. The serviceman makes en-

Continued on page 100



MORE THAN 1000 TONS of cooling is provided for the Pennsylvania state capitol by these four hermetic centrifugal water chillers installed in the basement of the massive old building.

SPECIAL WINDOW TREATMENT was required because of the impracticality of cutting through the thick stone walls. Photo at top left shows how air handling units were concealed behind wood paneling which blends with the decor of private offices. Photo at left shows how window sash was notched to fit around specially constructed air intakes so that window can be completely closed with unit in place.

A Pennsylvania consulting engineer shows how to

Turn a Repair Job into a Sale

WHEN CONSULTING ENGINEER Charles F. Johnson was called in to renovate an old heating system in the Pennsylvania state capitol building, he did more than a patchwork job. In fact, he not only sold an entirely new heating system which was badly needed, but also paved the way for an air-conditioning job.

This advance planning saved about 40% of the cost of complete air-conditioning when it was eventually added.

The initial job specified was to

replace the cast iron radiators, and any defective temperature controls. After a complete survey of the five-story building, Johnson felt that the entire system was in poor condition. He recommended that it be replaced with a new one which would make provisions for air-conditioning.

He pointed out that a great deal of cutting and patching would have to be done in either installing a new heating system or repairing the old. If provisions for cooling were not included, the same

amount of cutting and patching would have to be done again if cooling ever was installed.

Johnson figured that 40% of the cost of installing a new system would be in the cutting and patching. Using central heating plants and ductwork would have doubled that cost.

When Johnson got the go-ahead on his proposal, he specified Trane equipment. Riggs-Distler, Inc., Philadelphia, Pa., supplied and installed it.

Individual air handling units

were installed in place of the cast iron radiators. New piping (supply, return and drain lines) was run in the same place as the old piping. Supply and return lines were insulated to provide for air-conditioning.

Each unit was equipped with a thermostatic bulb located directly behind the return air grille. In certain critical locations units with moisture control were installed.

Special Window Treatment

Rather than cut through the building's 3 to 5'-thick walls for outside air intakes, each air handling unit was equipped with an adjustable base and an intake plenum which fitted on the back. The units could then be raised above the window sill level and the intake duct would extend beyond the outside ledge of the window.

The intakes are sturdy enough to support a man so window washers cannot damage them. The window rail is notched at the bottom and lined with weather stripping so the window can still be raised or lowered. This was necessary to let the window washers go in and out.

Zone Temperature Control

Some offices had casement windows. In others, the units were recessed behind wood paneling to blend with the office decor. For these, the air intakes were carried through openings cut in the window sills.

Individual temperature control was provided all floors except the basement and top floor. The basement is divided into cafeterias and general offices; the top floor has no windows. Each of these floors was equipped with central heating plants. Cooling coils were added later.

Four hermetic centrifugal water chillers were installed in the basement. The combined cooling capacity of these units is over 1000 tons. Chilled water is circulated through piping originally used for heating only.



Reach-In Peps Up Drug Sales

LOOKING FOR NEW PROSPECTS for your reach-in refrigerator sales? A Chicago druggist has installed a 20-cu.ft., two-door, reach-in unit for use by nearby physicians in preserving their biologicals.

Ben Bearenbaum, manager of Stineway Drug Co., invested in the unit as a goodwill builder. But Bearenbaum also has enjoyed increased sales from prescriptions.

His 10 years of keeping touch with more than 250 doctors in his area has taught Bearenbaum that most doctors' offices are too small to permit refrigeration storage space. This is true even though their practice requires the use of biologicals.

Going from office to office, he found that many physicians dispensed drugs to patients "on the spot." But drugs needing refrigeration such as antibiotics and insulin had to be ordered and time allowed for pickup and delivery.

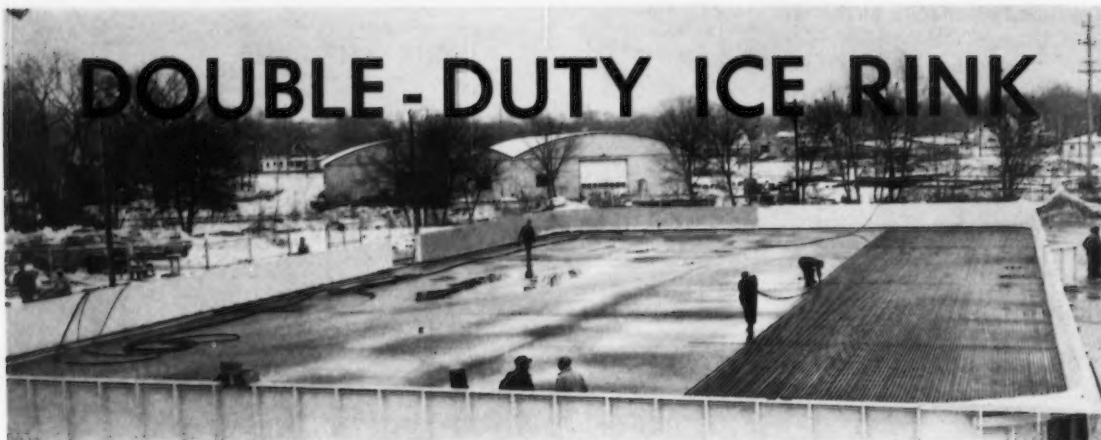
Bearenbaum suggested to the doctors that they could maintain their stock in the big refrigerator. The refrigerator has a padlock and chain. Each doctor has a key.

Doctors can prepare for a patient who needs large amounts of a refrigerated biological by keeping a big supply in the refrigerator. Previously, valuable time might have been wasted trying to locate a needed drug. The doctor's nurse now can pick up the drug shortly before the patient arrives. Bearenbaum also has a key and often makes deliveries in an emergency.

Some patients are given biologicals to keep in their refrigerators at home. Then they must remember to bring them to the doctor's office on each call to be administered. Bearenbaum's refrigerator eliminates this troublesome practice.

About 25% of the doctors in Bearenbaum's own building make use of the refrigerator. All of the doctors know that the box is available for their use.

The refrigerator is several times the normal size used for biological storage. Besides being an attractive addition to the store, it has developed a relationship between Bearenbaum and the doctors which has resulted in more prescriptions for the druggist to fill. As a result, Bearenbaum figures that the reach-in will soon pay for itself.



PREPARING THE RINK for ice skating, workmen lay the long loops of plastic pipe through which brine will be circulated.

YOU CAN GET A LOT MORE mileage out of a recreation area that is adaptable to a variety of uses than out of one usable for only a single purpose. The fast-growing popularity of artificial outdoor ice skating rinks points up this fact strikingly.

In most parts of the country, such rinks are closed between March and November. This means that for about eight months out of every year a large recreation area stands idle, while people move to some other spot for such activities as roller skating or dancing.

The refrigeration contractor who can offer a solution to this problem holds a trump card that is apt to win him the job of installing the rink.

How such a solution can be worked out was demonstrated in Kalamazoo, Mich., when the parks department set about building the city's newest ice rink. This 85 x 135' area can be quickly and easily converted to other uses requiring a hard surface.

Secret of the rink's flexibility is the 11 miles of polyethylene plastic pipe that forms the grid through which brine is pumped to freeze the rink floor.

In this installation, brine supply and return lines run across one end of the rink. The grid is composed of separate loops of plastic pipe. Each loop is double the length of the rink.

One end of each loop is connected to the brine supply line. The other end is connected to the return. Couplings are held in place by stainless steel clamps.

At the opposite end of the rink, the looped end of each pipe section is fastened to a firmly anchored 15" loop of rubber shock cord. This arrangement holds each pipe loop taut and makes allowance for the fact that each loop contracts about 12" when the refrigerated brine is pumped through it.

Installation and maintenance of the plastic pipe is simple and economical. The entire grid was laid and connected for use in two days by men who had no previous experience in such operations.

In the spring the plastic pipe is simply disconnected from the headers, which then are plugged to keep the refrigerant brine in the main supply line. The plastic

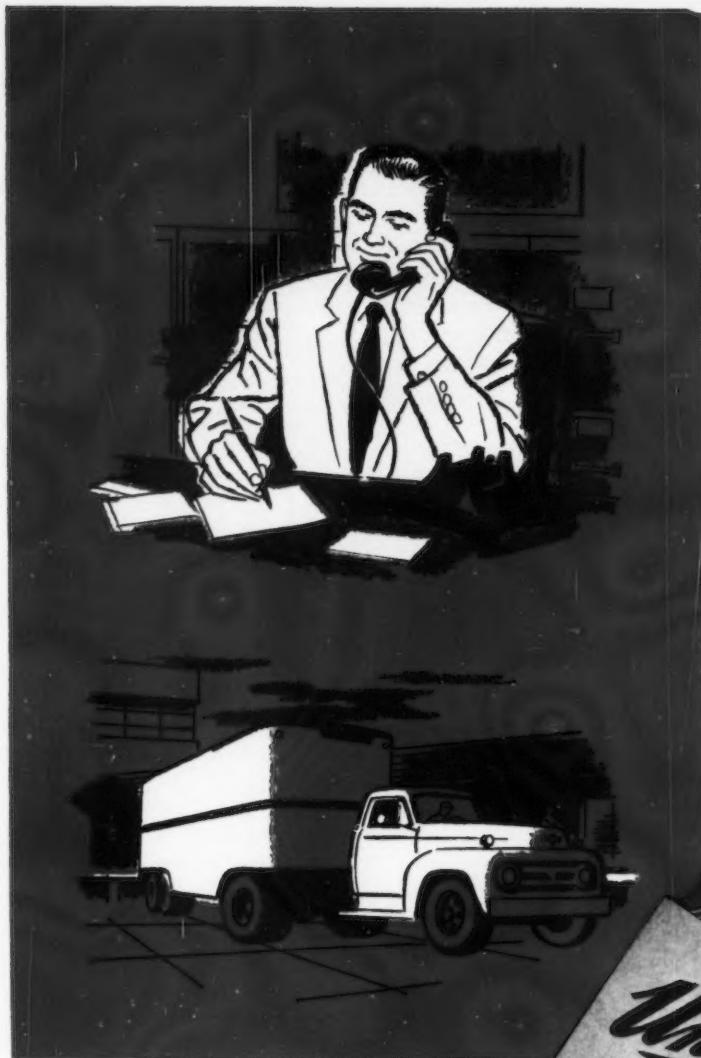
Continued on page 132



FREE ENDS of pipe loops are attached to fittings on brine supply and return lines running across one end of rink floor.



EXPANSION and contraction of plastic pipe loops (up to 12" in a single length) is controlled by rubber shock cords.



**you get
the service
you want
when you
specify United
Service* Tube**



However your order arrives — by phone, mail or telegram — your shipment starts immediately. It's here today ... gone today!

And check this new United Service Tube carton.

Punch-out handles (a) for easy carrying. Punch-out holes (b) makes it simple to remove from box or shelf. Call, write or wire United for copper, brass and aluminum tube and wire.

**Water, Refrigeration and Automotive*

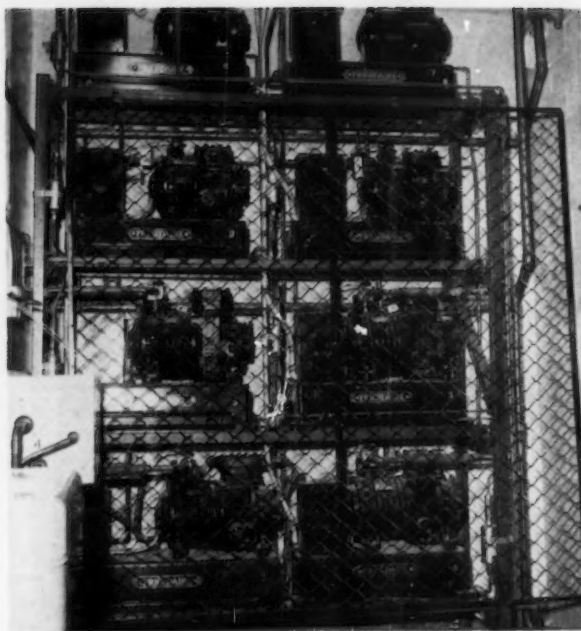
**UNITED WIRE
AND SUPPLY CORPORATION**
PROVIDENCE 7, RHODE ISLAND
FOR A PERMANENTLY UNITED
JOINT, INSIST ON PHOSON



Circle No. 46 on Reader Service Card

SPACE IS MONEY for restaurant owners, so the ability to put a lot of equipment in a little space is a real sales aid for the refrigeration dealer specializing in the food service field. This four-tier compressor rack is a case in point.

SAVING SPACE helps in SELLING JOBS



PROMISE TO SAVE a restaurant owner space, when planning a refrigeration installation for him, and you're apt to get the job. That's what Gene Clymer has found.

Clymer is service manager and engineer of Snodgrass and Smith, refrigeration contracting firm of Denver, Colo. He bases his observation on the fact that his firm has taken many restaurant jobs away from competing contractors whose bids were lower. The deciding factor, he is convinced, is his company's ability to give the customer the answer he wants when he asks how much space the new equipment will require.

While old and new restaurants alike usually have space for walk-in coolers, freezers, and refrigerated cases, there is almost never any space allowed for compressors, cooling towers, or service lines. All available space is usually set aside for other equipment, storage, or expansion. Because of this, installing refrigeration equipment in a small area is not just an improvement, it's a necessity.

Snodgrass and Smith approaches a prospective customer with the assurance that the firm's know-how can save him space, and still give him the refrigeration equipment he needs.

This contractor has found that conservation of space and initial investment are the two most important factors in selling to a restaurant. The restaurant owner wants to be sure the equipment will fill his needs, but he is not interested in the mechanics of it. Most customers are not content to let the contractor bear the responsibility of properly selecting and sizing the equipment.

A typical example was the case of a large Denver

restaurant. Snodgrass and Smith was asked to install eight compressors to serve four walk-in coolers. This was an expansion program, and there were already eight compressors installed in what seemed to be the only available space.

On further inspection the contractor located a vacant 1 x 6' space between the entrance to the food storage department and a supporting pillar. This was all he needed. The compressors were stacked four high on platforms constructed of steel scaffolding.

The contractor installed a heavy steel mesh screen across the front of the equipment area. It is held in place by steel hooks fastened to the compressor rack. It has been found that this type of screen is another good selling point, since it lessens the possibility of damage to the equipment.

Another space problem was solved by Snodgrass and Smith in a restaurant located in an old building. There was no room in the basement, and the smaller rooms on the main floor were being used for food service areas.

Behind the kitchen, however, was an employee's rest room. The only space not completely utilized was a 3½ x 4' alcove containing a wash bowl. The owner thought his employees would be peeved if he removed the wash bowl to install refrigeration equipment.

In an effort to sell the restaurant owner on the idea that the employees were not even aware of this room, the contractor locked it for several hours. The owner was convinced when not one employee complained.

The compressors were installed one above the other. Because they are located right behind the kitchen, relatively short lines were required to reach the refrigerated areas. This installation has been used to sell other prospects on the use of similar ideas.

FOR HIGH
RESERVE CAPACITY
ASK FOR THE DRIER
FILLED WITH
PA 400



SAFETY FACTOR. Davison PA 400® Silica Gel is the "thirstiest" desiccant around. PA 400 holds up to 40% of its weight in moisture . . . keeps refrigeration systems running even when there's enough moisture in the system to completely saturate other desiccants. So ask for the drier filled with thirsty PA 400. Both you and your customers will be happy you did. See your distributor tomorrow.

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Ranco D50 and D52

AUTOMATIC DE-ICER CONTROLS



This is the D50 Automatic De-Icer Control. The D52 is similar, but switch action is S.P.D.T. instead of S.P.S.T.

Production Now Available On Normal Lead Time

Here are revolutionary new controls developed by Ranco research to make reliable, completely automatic heat pump operation an actuality in a much wider geographic area than ever before. Efficiently simple, D50 and D52 Automatic De-Icer Controls are the *only* controls which detect the coil ice to be removed quickly and automatically. They operate on the increase of temperature differential between ambient outside air and the outside iced coil as compared to a clear coil. "Spread temperature" for initiation of the de-icing cycle is adjustable on the D50 and both the D50 and D52 automatically terminate the de-icing cycle after ice is removed from the coil.

Two capillary tubes permit mounting the control in a weather-protected compartment with one tube extending into the air stream and the other with bulb for attachment to an end bend at the middle of the coil. Ambient air power element action is not effective in ambient temperatures above 48°F after de-icing, permitting operation of the fan through the de-icer circuit in the cooling phase.

Contact Ranco about this sensational De-Icer Control, and ask about the new slide-type reversing valves and automatic cycling control designed to work with the automatic de-icer to give absolutely automatic heat pump operation.

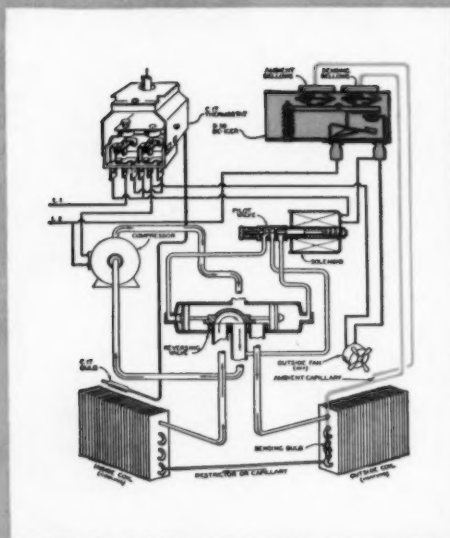


Diagram above shows de-icing phase of heat pump (Ranco D50 Automatic De-Icer in blue). In 3-5 minutes, the coil clears of ice, the de-icing cycle is terminated, fan motor starts and solenoid valve is re-energized to return unit to heating phase . . . all automatically!



Ranco®
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World's Largest Manufacturer of Refrigeration Controls COLUMBUS 1, OHIO

10 Steps for Patching Freezer Floors in Service

REPAIRING THE CONCRETE FLOOR in a low temperature room, without taking the room out of service, is a tricky business. But it can be done successfully.

Here is the step-by-step procedure recommended by the American Warehousemen's Association. Even if you're never called upon to do such repair work yourself, you can cement relations with your customers by passing along these pointers to them when they are faced with this problem. So tear out this article and keep it in your files.

Experience has shown that the areas needing attention usually occur near an expansion joint or a score mark. These dished out cavities should be patched as quickly as possible, or at least before they grow larger than 8 to 10" in size. Here is how to go about it:

1. Place a cast iron grid plate over the hole to be patched.
2. Draw a fine sharp chalk line around the grid.
3. Remove the grid. Use a power hand saw with a carbundum or concrete cutting circular disc and cut along the chalk mark to the desired depth, preferable in stages of $\frac{1}{4}$ " each. If a saw is not available, an electric gun can be used and the edges squared off with a hammer and chisel. It is of utmost importance, however, that the edges are straight and sharp in order to secure as tight a fit as possible when placing the cast iron grid. A snug fit is of primary importance.
4. Clean out the hole thoroughly and remove all dust, either with compressed air or bellows.
5. Prepare, in a non-refrigerated area, the necessary ingredients as follows:
 - (a) Make a dry mix of cement and sand in the proportion 1:2 $\frac{1}{2}$. This should be mixed thoroughly.
 - (b) Mix 5 lbs. of calcium chloride in 5 gallons of very hot water.
 - (c) In a small can, mix cement with the calcium chloride solution. Work it into a creamy paste.
6. Bring the cement-sand mixture and the calcium chloride solution to the location in the refrigerated

room where the floor patch work is to be done. Then proceed as follows:

- (a) Brush the creamy calcium chloride-cement paste into the hole to be repaired. Make certain that the bottom and sides are well covered.
- (b) Mix the sand-cement and the hot calcium chloride solution into a very dry "concrete" mixture (the deeper the hole, the drier the mix) and fill the hole to be patched. It is important that the "concrete" fill is pressed well into all cavities and crevices by means of a trowel or other suitable tool. When the hole is filled up to the level of the floor, level the surface by means of a straight edge (use a 2 x 4" piece of wood).

7. Sink the cast iron grid into the cement filled hole and press it down until level with the floor. Since the hole is cut to make it a close fit around the cast iron grid, it may be necessary to use a wooden mallet or a piece of wood (2 x 4") to tap the cast iron grid into position.

8. Remove excess cement mixture with a wooden float and finish it off with a steel trowel.

9. Cover the patch with waterproof paper, tar paper, or cardboard. On top of this, place one layer of hair felt.

10. Leave the patch to cure for at least 24 hours, or better still over the week end.

In some cases, where the hole is deep, it can be filled up to within 1 $\frac{1}{2}$ " from the top with cement, sand, and coarse aggregate. Then it should be topped with a $\frac{1}{2}$ " topping of cement and sand, and possibly a fine aggregate (1:2:3).

Where large defective areas are encountered, it is sometimes desirable to provide a semi-prefabricated insulated enclosure around the area to be repaired, and to provide electric heat.

Successful repair jobs have been accomplished by heating the enclosure to an air temperature of 70 F, with the floor slab well over 40 F, before doing the cement work. Upon completion of the repair work, a two-week curing period with a temperature drop of a few degrees each day, has proved most desirable.

Distributors Find Many More Ways To Cut Business Operating Costs

TIMES BEING WHAT THEY ARE, it is more important than ever for any commercial refrigeration distributor to run his business as economically as he can. Recognizing that fact, National Commercial Refrigerator Sales Association published a few months ago a report on how members were meeting this challenge.

Since that time, the association has received considerable additional information from members, outlining how they have been able to cut operating costs by tightening up operations in several phases of their business activity. A summary of these reports from the field are presented here:

Office Operations

The purchase of a new book-keeping machine which is used for many operations including payroll, statements, and check writing, cuts time previously spent on these and provides much more information.

Outside auditor for bookkeeping has cut expense of office help.

Analysis of paper work procedures has consolidated some forms and eliminated others.

Tighter controls on long distance calls.

Warehouse-Delivery Costs

Service mechanics are making miscellaneous deliveries when in the customer's neighborhood.

Warehouse space cut 50% by packing equipment more tightly and putting cases back-to-back or on movable dollies.

Trucking improved by cheaper, faster service from new trucker with hydraulic tail gate truck.

Rented separate warehouse to store and repair used equipment.

New warehouse four doors

away, instead of old one across the city.

Roller dolly designed to move heavy equipment has saved many hours of labor.

Improved Capital Turnover

Reduced receivables on all but contract service by advising customers that all service is on C.O.D. basis.

Cut down on floor stock inventories—made greater use of customer's installations.

Reduced inventory of little-used but necessary parts.

Increased Sales and Profits

New agreement with salesmen has provided greater incentive to sales force to make more sales and more profitable sales.

Foreman is now a *working* foreman, cutting down on the gross cost of a job.

Non-profitable salesmen dismissed—and volume of direct mail

advertising almost doubled.

Increased sales and profits by promoting complete new stores, and by getting sites and buildings for customers.

17 MORE DISTRIBUTORS JOIN NCRSA RANKS

National Commercial Refrigerator Sales Association has announced the addition of 17 new distributors to its membership rolls.

New members include: Biltrite Fixture Co., Inc., Bronx, N.Y.; Carlson & Goulette Htg. & Refrigeration Co., Iron Mountain, Mich.; Commercial Equipment Co., Inc., Birmingham, Ala.; Herbert's Refrigeration, Sparks, Nev.; Malcolm Hinkle, Inc., Pampa, Tex.; Hobart Sales & Service, La Crosse, Wisconsin.

Johansen & Anderson, Joliet, Ill.; Paul Lamontagne Enr., Quebec; Modern Refrigeration Service, Billings, Mont.; Phoenix Refrigeration, Inc., Cleveland, Ohio; Refrigeration Service & Supply Co., Ltd., Honolulu, Hawaii; Smylie Bros. Refrigeration, Inc., Cleveland, Ohio.

Star Electric Services Ltd., Moncton, New Brunswick; Storey Electric, Charlottetown, P.E.I.; Stout & English Store Fixtures, Inc., Denver Colo.; Clarke Waters Refrigeration Co., Pocatello, Id.; A. B. Wynn, Refrigeration, Shreveport, Louisiana.

NCRSA MEMBERS REPORT SALES UP 3.54% IN 1957

National Commercial Refrigerator Sales Association has reported that members participating in the quarterly report showed an average sales increase for 1957 of 3.54% over 1956. Sales during the

last quarter of 1957 dropped 4.79%, and 1957 net profit decreased slightly. Following are the average percentages for all NCRSA members reporting in the various categories:

	1957	
	Increase %	Decrease %
TOTAL DOLLAR SALES	3.54	
DOLLAR NET PROFIT BEFORE TAXES		1.65
TOTAL DOLLAR SALES FOURTH QUARTER		4.79
INVENTORY (DEC. 31)		1.52
ACCOUNTS RECEIVABLE (DEC. 31)	2.09	

For *fast* sales leads, Airtemp outlets are listed individually in this giant fold-out ad in the June issue of *Holiday*. Three pages in full color, plus two additional columns, make this one of the largest air conditioning ads ever run in a high-circulation quality magazine.

★ “dealer-centered” advertising

**gives you
immediate**

sales

increases!

Airtemp ads are *action* ads! They have one main goal—to bring “live” prospects to *you*. Coupons, “where-to-buy” listings, action appeals bring you a steady flow of sales leads. That’s why Airtemp dealers get *fast* results from every Airtemp advertising campaign.

Here are some other reasons why dealers make more money with an Airtemp franchise—

- The Airtemp line is complete—really complete—with 297 cooling and heating models. Dealers

can satisfy *any* cooling or heating need.

- They sell the Chrysler name and Chrysler’s famous engineering.
- Airtemp dealers *keep* their initial sale profits because they have fewer customer complaints and service calls.
- Special training for dealers and their personnel at Chrysler Corporation Service Centers.
- Factory advertising in your local markets.

CHRYSLER



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CITY.....ZONE.....STATE.....

YOU'RE THE BOSSHow To Analyze
Your BusinessBusiness
PhilosophyPlanning Ahead
for ProfitsOrganizing for
Effective Control

by GEORGE C. WEBSTER, president, George C. Webster and Associates, Inc., Management Consultants

How To Use Accounting as

THE FINAL RESULTS of any business are measured in figures—cold, hard, dollars-and-cents figures. Words can never explain away a lack of profits; nor can words detract from a profitable operation. This is where accounting enters the picture.

But accounting is not used just to measure final results. It also is used to *control* operations, in order to assure satisfactory results.

With the help of the three preceding articles, you have already developed your business philosophy and policy, established your future sales objectives, and set up an organization to handle the expected volume of business. Now you must make certain that these plans offer the profit potential you desire.

To do this you must find the relationship between price, volume, and profit. The break-even chart is a handy tool for this purpose. A break-even chart particularly adapted to the air-conditioning and refrigeration industry is shown on the facing page.

To adapt this for your own use, place across the bottom of the chart volume figures from zero to the maximum volume you expect (in this case \$400,000). Up the left hand side place dollar amounts from zero to the maximum dollar gross profit you can expect (in this case \$120,000, which is 30% of the maximum volume of \$400,000.) These figures also represent expenses. On the right hand side set up various percentages of gross

profit from zero to the maximum you can expect (in this case 30%).

After the basic chart is laid out in this manner, then take the following steps:

First, take the highest, lowest, and the average expected percentage gross profit on the right hand side and connect each of these three points with the zero point in the lower left hand corner. These three lines will then measure at any given volume the gross profit in dollars on the left hand column. For example, figured at 30%, there would be \$60,000 in gross profits on an annual volume of \$200,000.

Expenses are broken down into three types: fixed, variable, and selling.

Fixed expenses are ones that do not vary with volume, such as rent, certain salaries, heat and light, and depreciation. In the illustration shown here these come to \$40,000. You will have these expenses whether you do a volume of \$100,000 or \$400,000. In fact, you will have these expenses if you do no business at all.

Variable expenses are those that vary with volume, like gasoline and oil, certain taxes, and some salaries which are added or eliminated as volume goes up or down. In order to plot the variable expenses, you have to look at your past operations to see how much these expenses amounted to at various levels of volume.

Selling expenses generally vary with volume, and include advertising and sales commissions. In this illustration both selling expense and variable expense are figured at 5% of sales.

Your break-even chart is now complete, and you can use it to analyze the relationship between price, volume, and profit in your own business.

In our example, let's take the highest volume estimate of \$400,000 and compare the profit at 30%, 25%, and 20% gross margin. At 30% there would be a \$40,000 net profit; at 25% there would be \$20,000 net profit; and at 20% there would be no net profit—we'd just break even.

The break-even point is always that point at which total expenses equal total gross profit. It can readily be seen from this example that a 20% gross margin is too low, since no profit would be made even at the maximum volume expected.

MANAGEMENT CLINIC: Need help on some of your specific management problems? George Webster offers CRAC readers the benefit of personal consultation by mail. Simply send your questions to him, c/o this magazine. He will answer you directly—and without charge.

REPRINTS of this article—and eventually the entire series—will be available. Price of this one: 35¢. Send order and payment to Reprint Dept., COMMERCIAL REFRIGERATION & AIR CONDITIONING, 812 Huron Road, Cleveland 15, Ohio.

Accounting as a
Tool of ControlControl
of ExpensesControl of
Job CostsControl
of SalesControl of
AdvertisingFinancing
Your OperationsEmployee
RelationsSimplified
Budgeting for
1959

a Tool of Business Control

Now let's follow this same procedure for the lowest anticipated volume, which we shall assume to be \$300,000. We find that total expense at this volume is \$70,000. Thus, total gross profit at 30% would be \$90,000; at 25% it would be \$75,000; at 20% it would be \$60,000. We would have a net profit of \$20,000 at 30%, \$5,000 at 25%—and a loss of \$10,000 at 20%. Thus, we see that at least a 25% gross profit is necessary to earn a \$5,000 net profit on this volume of business.

How much profit should you make? There is no

simple answer to this question unless it be "make as much as you can." Generally, in this industry, 5% on sales—before taxes—is considered as satisfactory (assuming that the proprietor has made a reasonable salary). Another satisfactory measure is a 20% return on investment—before taxes.

At \$300,000 volume a 5% profit on sales would be \$15,000. Assuming an investment of \$50,000, a 20% return would be \$10,000. It is advisable to use the higher

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BREAK-EVEN CHART—HOMETOWN HEATING & COOLING CO.

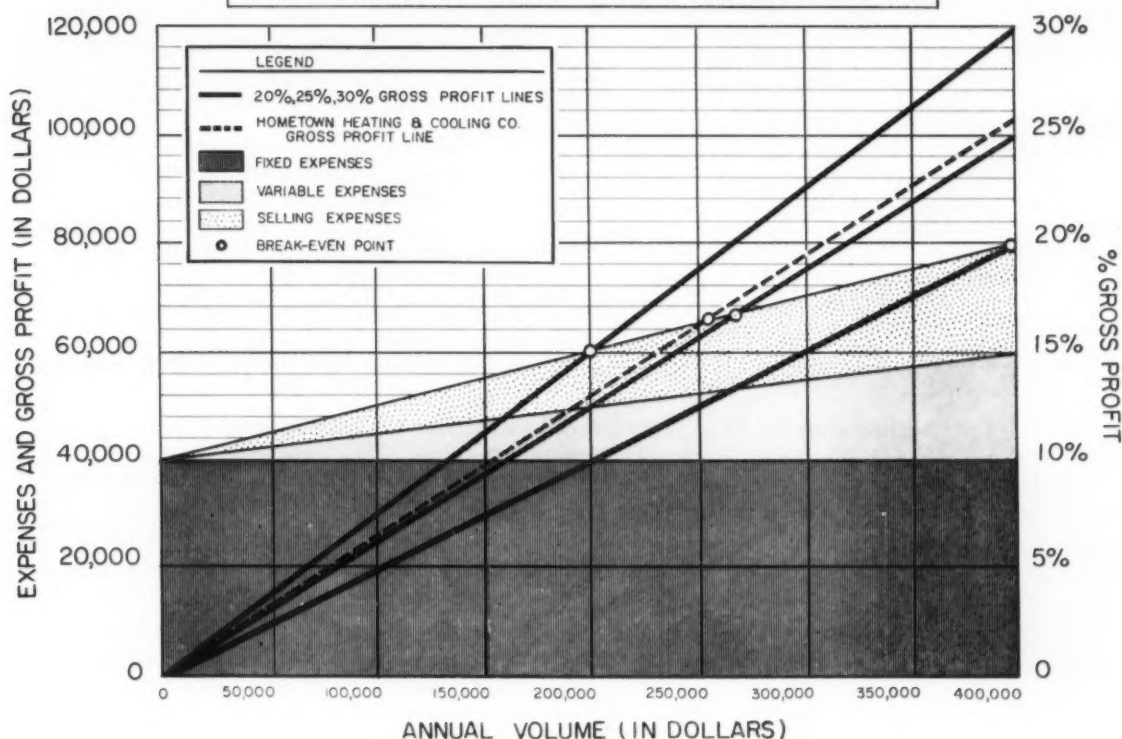


figure in forecasting results, as this will give you a factor of safety.

To arrive at your final percentage gross profit objective, pick the volume you feel you will obtain from your trend line on your sales forecast (see the article in the March issue titled "Budgeting—or Planning Ahead for Profits"). For "Hometown Heating & Cooling Co." this was \$380,000.

The objective net profit at 5% on \$380,000 would be \$19,000. The gross profit necessary would be computed as follows:

$$\text{Gross Profit} = \text{Expenses (fixed + variable + selling) + Net Profit}$$

$$\text{Gross Profit} = (\$40,000 + 19,000 + 19,000) + 19,000$$

$$\text{Gross Profit} = \$97,000$$

$$\% \text{ Gross Profit} = \frac{97,000}{380,000} = 25.5\%$$

Thus, you can see that at \$380,000 volume you must have a gross profit of 25.5% to yield a net profit of 5%. By drawing in a 25.5% gross profit line on the break-even chart, you can find the break-even volume, which in this case would be \$258,000.

By making this break-even analysis of your business you will be able to pick the gross profit necessary to give you the profit you should earn on the volume your business will generate.

Now that you know the gross profit you need for an adequate net profit, see to it that every service you provide and every sale that you make has at least that much gross profit. If you don't, you are licked before you start.

If the proper gross profit is figured, then you can concentrate your efforts on hitting your sales forecast, controlling job costs, and controlling expenses, in order to assure your proper net profit. We'll tell you how to do all this in later articles.

In order for your accounting system to be of value to you in controlling your business, it should give you

the following information at the indicated times:

ITEM	FREQUENCY	TIME
Profit and loss statement	Monthly	10th of month
Balance sheet	Monthly	10th of month
Cash	Daily	By 5 pm
Accounts receivable	Daily	By 5 pm
Accounts payable	Daily	By 5 pm
Sales-to-date (for month)	Daily	By 5 pm

The cost of getting these reports is very little. Any businessman who says there isn't time for his bookkeeper to compile these figures should consider giving these reports first priority, since without them you cannot manage the business.

The profit and loss statement is the summary of what your business did last month. It shows total sales and gross profit, expenses, and net profit, which you can compare with your budget. Later articles will show the actual method of controlling these items.

Your balance sheet gives you the condition of your business at the end of each month. It tells you what you did with the money you made, what you own, and what you owe.

The daily report on cash tells you how much cash you have with which to pay your bills. The bills are totaled and given you daily as accounts payable.

The daily report on accounts receivable tells you how much people owe you that you may expect to turn into cash soon.

The sales-to-date figures, when compared with the sales budget to date, tell you long before the month is ended how close you are to hitting your objective.

If you are not getting the necessary reports at the specified time, then you should tell your accountant exactly what you want and insist on results. If he still doesn't give you all this information at the right time, you should replace him with someone who can and will do the job.

You don't have to be an accountant to supervise one. Your outside auditor or C.P.A. will see to it that proper accounting methods are followed.

Just remember—you're the boss. So make sure you are getting all the figures you need in order to make accounting a real tool of control.

Don't Miss Any of this "Textbook" on Business Management

Reprints of earlier articles in this 12-part series are still available. Many individuals and companies are placing orders for the entire series now to ensure having the complete text at year's end. On all such orders, billing will be withheld until the series is completed. Subject of each month's article is shown at the top of the preceeding pages of this article.

These reprints are priced as follows: 1 to 5 copies, 35¢ each; 6 to 15 copies, 25¢ each; 16 to 50 copies, 20¢ each; 51 copies and over, 15¢ each. To determine cost of complete series, multiply proper quantity price by 12, and then by number of copies desired. For example, 10 copies of the complete series would be \$30, payable upon final delivery.

You'll not flare up
when you flare...



... REVERE

DRYSEAL

COPPER REFRIGERATION TUBE

When you flare DRYSEAL for compression fittings you'll save your temper and your time. It's because of the special temper and ductility. Bending dead-soft DRYSEAL is equally easy . . . do it by hand . . . no tools of any kind are needed. And when you get your DRYSEAL take a squint at those double-crimped ends. This is the final step in manufacturing, that immediately follows a special cleaning and dehydrating operation, which keeps dirt and moisture from entering the tube.

The seal is made in such a way that it does not change the diameter of the tube. This makes it possible to pass the tube through any opening large enough for the tube itself. Economical tube sizes range from $\frac{1}{8}$ " to $\frac{3}{4}$ " O. D.

Also you'll find the job-size, 50-foot, one-coil pack easy to handle, light weight, economical and sturdily made to assure protection of the tube.

NO SPLITTING WHEN YOU
FLARE DRYSEAL



REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

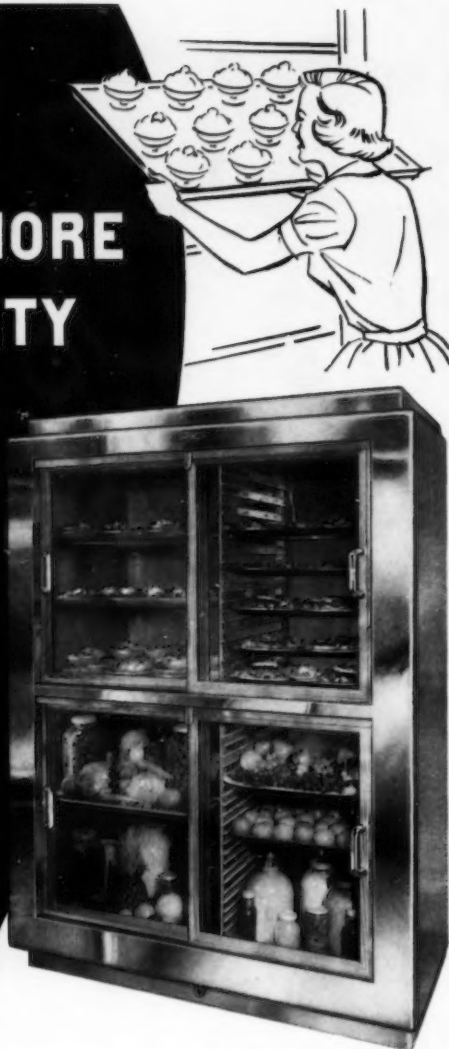
230 Park Avenue, New York 17, N. Y.

Mills: Rome, N. Y.; Baltimore, Md.; Chicago, Clinton and Joliet, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Brooklyn, N. Y.; Newport, Ark.; Ft. Calhoun, Neb. Sales Offices in Principal Cities, Distributors Everywhere.

8 TIMES MORE CAPACITY

New SLIDING-DOOR CASE *by Schmidt*

*New use of
Tray Slides gives
more capacity
in less space*



Model SDS — 3 sizes

- **Here's more capacity** for desserts, salads, etc. . . . up to 48 cafeteria trays per door!
- **Sliding Glass Doors** keep food on display, always fresh and appealing. A profit-proved food merchandiser!
- **Relieves Congestion** . . . no door-swing to block aisle.
- **Cuts Operating Costs** . . . no unnecessary opening of doors to check for certain items. Contents always visible.
- **Saves Man-Hours** . . . assures finer, faster customer service.

Cash in on this new large capacity case. It's well built and will make friends for you. Write for details on sizes and models now!



THE C. SCHMIDT CO.
1712 John St., Cincinnati 14, Ohio

Circle No. 51 on Reader Service Card

AS WE SEE IT

Continued from page 21

take conferences with the distributor . . . there'll be baulks . . . squawks . . . maybe you'll have to pay some . . . but you'll be selling yourself, too.

" . . . Cost in itself means nothing . . . weigh it against results. In co-op advertising the allotment . . . by the manufacturer . . . is a concession from cost price—and it's up to you to use this money effectively."

* * *

East meets West again with the announcement from the export division of Warren Co. that the first complete supermarket in southern Asia has been opened in Singapore.

Fitzpatrick's Super Market, directed by George Holt, has long been a pioneer in food merchandising in this area. The new store is completely fitted out with self-service equipment for the display and sale of frozen food and ice cream, produce, and meat.

Here's another example of how the world-wide recognition of American superiority in food merchandising techniques helps pave the way for commercial refrigerator manufacturers interested in the export market.

THE Institute of Boiler and Radiator Mfrs. installation and calculation guides have recently been revised, and completed with the release of three new publications.

The Guides contain information on every aspect of hydronic heating as well as cooling, detailing advanced and researched methods to reduce materials and labor costs.

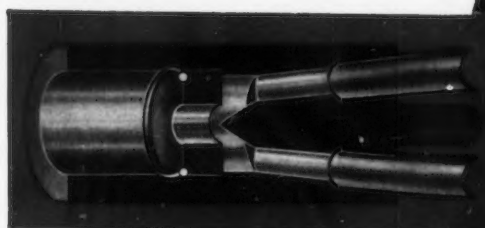
The new guides include: I-B-R Installation Guide 500, Forced Circulation Hot Water Heating Systems; I-B-R Piping Guide 700, Residential Heating Systems; I-B-R Installation Guide 900, Chilled Water Cooling System Design.

Other recently published guides include H-20, and C-30, for heat loss calculation, and cooling load calculation respectively.

The new guides follow the format established in earlier I-B-R publications. Guide 700, and C-30 cost \$1.00 each. All others listed are .75¢ each.

Copies or additional information may be obtained by writing, Institute of Boiler and Radiator Mfrs., 608 Fifth Ave., New York 20, N.Y.

get **controlled distribution** *to every circuit*



**BUY SPORLAN
REFRIGERANT DISTRIBUTORS
with the Famous
INTERCHANGEABLE NOZZLE!**

the **PEAK PERFORMANCE** design with

Over 19 years of Leadership!

And in addition... get these plus features that only Sporlan Refrigerant Distributors can offer. The Interchangeable Nozzle permits easy capacity control either at the factory or on the job. Coil manufacturers can stock coils with distributors already attached and select proper nozzles upon order. Visual, air, or test wire inspection at coil and distributor connections are simplified by merely removing the nozzle. They permit final coil pressure leak test without damage to the valve.

So... Get Controlled Distribution to EVERY Circuit, whether you need 2 circuits or 2 dozen...1 distributor or a thousand. Buy Sporlan Refrigerant Distributors with the famous Interchangeable Nozzle for Peak Performance on all installations regardless of load or evaporator temperatures.

Better still... Install the famous Sporlan combination of Catch-All, See-All, Solenoid Valve and Thermostatic Expansion Valve along with it and get Peak Performance right down the line!



SPORLAN VALVE COMPANY

7525 SUSSEX AVENUE

ST. LOUIS 17, MO.

EXPORT DEPT. AD. AURIEMA, INC. 85 BROAD STREET, NEW YORK 4, N. Y.

Circle No. 52 on Reader Service Card

NEW

Products

(For news of Useful Literature turn to page 104)

Ice Cube Machine

Product: "Cube Freeze-Kleer Kube" automatic ice cube machine.

Manufacturer: Cold Corp. of America, Chicago, Ill.

Features: Filtered water is sprayed upward against refrigerated upside-down ice cube mold. Impur-



ities fall immediately into drip tray. This method removes chlorine and other odorous gases. As many head units as needed can be installed to increase production. Available in two sizes, producing 200 lbs. or 400 lbs. of solid cubes every 24 hours.

Circle No. 154 on Reader Service Card

Water Dispenser

Product: Self-contained, hot and cold, bottle-type (Model BH-2S) water dispenser.

Manufacturer: Temprite Products Corp., Birmingham, Mich.

Features: Only 12" square. Height 36". Weighs only 84 lbs. Accommodates up to 90 office workers with cold drinking water. Also has 190° hot water supply at rate of 60



cups per hour for instant preparation of coffee, tea, soups, and other foods. Sheet metal cabinets.

Circle No. 155 on Reader Service Card

Heat Pump

Product: Self-contained air-to-air heat pump.

Manufacturer: Typhoon Air Conditioning Co., Div. of Hupp Corp., Brooklyn, N. Y.

Features: Available in 2, 3½ and 5 ton models. Reversing automatically controlled by thermostat. Balanced to provide full capacity in cooling or heating. Supplemental



electrical resistance heaters are available as accessory. Can be installed the same as conventional packaged air-cooled air-conditioners with or without ducts. Dimensions of 2 and 2½ ton units are: 24-inches high; 29-inches wide; 49-inches deep. 5 ton unit is 30 x 36 x 64½". Cooling capacities range from 22,000 to 50,000 Btu/hr. Heating capacities up to 104,500 Btu/hr.

Circle No. 156 on Reader Service Card

Redesigned Pumps

Product: Redesigned oil-less rotary air and vacuum pumps.

Manufacturer: Leiman Bros., Inc., Newark, N. J.

Features: Rotary shaft seal prevents leakage of air into pump, and also prevents leakage of medium being pumped to atmosphere, manufacturer says. Shaft seal permits pump to be used for gas sampling, impinging or any operation where medium can't be contaminated by oil or mixed with atmosphere, such as instrument controls and food handling equipment. Volume ranges from 2 to 12 cfm. Vacuums to 20" hg. Pressures to 15 psig. Units may be mounted on bedplates with connections to motor by V-belt drive. May be close-coupled to motor shaft.

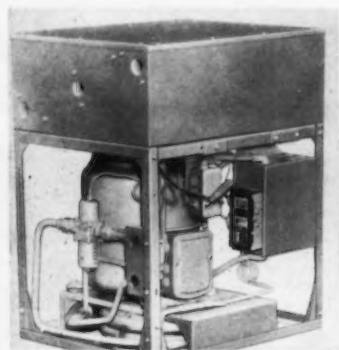
Circle No. 157 on Reader Service Card

Water Chiller

Product: Improved water chiller, ("Capitolaire").

Manufacturer: National-U.S. Radiator Corp., Johnstown, Pa.

Features: Available in 2, 3, and 5 hp, with either air (Model CA) or water-cooled (Model CW) condensers. Compressor-evaporator units are identical in both series. CW series includes self-contained, water-cooled condenser, with entire unit enclosed



in steel frame. CA series comes with air-cooled condenser-blower combination integral with compressor-evaporator as packaged unit. Also with condenser blower unit located for remote installation out of doors. In either case, chiller is next to boiler and, in summer, can provide chilled water in circulation through same piping and fan-coil units that heat home in winter.

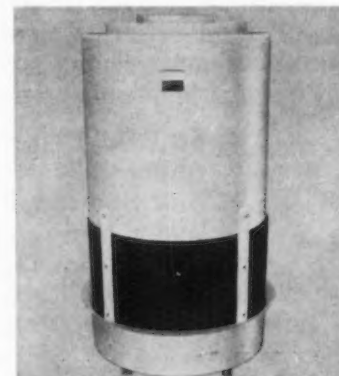
Circle No. 158 on Reader Service Card

Cooling Tower

Product: "Jet Action" cooling tower.

Manufacturer: Koch Engineering Co., Wichita, Kan.

Features: Fiber glass construction eliminates rust and corrosion



No moving parts. Water-jet nozzels spray downward causing movement of a large volume of air through the tower. The spray nozzels also atomize the water to mix air and water for high cooling efficiency. This atomizing eliminates wood slats and

Where high
humidity is needed . . .

THE LARKIN BAFFLE COOLER COIL

Is ideal for Walk-In Coolers, Florist Boxes,
Produce Boxes, Packing Rooms, Etc.



In refrigerators where a high humidity is necessary, it will pay you to install the Larkin Baffle Cooler Coil. By handling a large volume of air and cooling it slightly each time it passes through the coil, it is possible to maintain a higher humidity. Louvers are engineered to provide correct circulation of air and accelerate its flow. Air constantly swirls around stored products, providing proper refrigeration and humidity.

The Larkin Baffle Cooler Coil is durably constructed and is a complete unit. It consists of an aluminum cross-fin coil, double louvered baffle with drain pan, and hangers.

See your wholesaler or write for Bulletin 1057



LARKIN COILS

INC.

519 MEMORIAL DRIVE, S.E., ATLANTA, GEORGIA

OUTSTANDING FEATURES

- Patented Larkin Cross-Fin coil with aluminum fins and staggered copper tubes mechanically expanded (aluminum tubes available for ammonia refrigerant)
- Baffles are constructed of heavy-gauge, polished aluminum
- Adjustable baffles easily removed for inspection and cleaning
- Coil and baffle hangers are heavy-gauge die-stamped aluminum channel punched with keyslots for easy attachment
- Matched baffles for left and right sides furnished if specified
- Special-sized baffle cooler coils are also available

Circle No. 53 on Reader Service Card

baffles. Can be installed in any outdoor location. Does not depend on wind direction or velocity. Available in sizes of 3, 5, 7½, 10, 15, 20, 25 nominal tons.

Circle No. 159 on Reader Service Card

Rerate Motor

Product: Line of a.c. rerate motors.

Manufacturer: Brook Motor Corp., Chicago, Ill.

Features: Weighs about 9 lbs. less than manufacturer's standard motor, but output is same as motor with larger frame. Temperature rise remains 40° C. Rerated, open, drip-



proof motors now are available, but other types will be offered soon.

Circle No. 160 on Reader Service Card

**OVER-VOLTAGE CAUSES
HOT-RUNNING
MOTORS**

**LOW VOLTAGE
RESULTS IN LOST
MOTOR TORQUE**

Correct Off-Standard Line Voltage with Acme Electric Buck & Boost Transformers

Check the supply line voltage, and if it does not match the normal voltage of the motor—install a buck and boost transformer to correct the over-voltage or under-voltage condition.

Remember these basic points: When motors operate on a line voltage in excess of nominal rating, operating temperature increases often to the danger point. When motors operate under low voltage conditions, necessary torque, to adequately handle the load, is lost. Motors labor to carry the load, overheat and burn-out.

These common conditions can be corrected with Acme Electric Buck and Boost transformers which permit modification of voltage by 5%, 6⅔%, 10%, 13⅓%, 20% or 26⅔%.

Definitely the most inexpensive way to correct an off-standard voltage condition. Write for catalog and prices.



ACME ELECTRIC CORPORATION
825 WATER STREET • CUBA, NEW YORK

Acme Electric
TRANSFORMERS

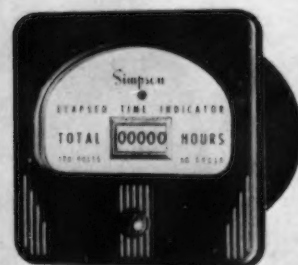
Circle No. 54 on Reader Service Card

Elapsed Time Indicator

Product: Addition of elapsed time indicators to line of panel instruments.

Manufacturer: Simpson Electric Co., Chicago, Ill.

Features: In 3½" round (Model 55ET), 3½" round shroud (Model



56ET), and 3½" rectangular (Model 57ET) case styling to match manufacturer's other panel instruments. Models are built around self-starting, synchronous clock motor. Made for either 120 or 240 volts. Units contain auto-resetting counters reading either 0.99999 or 0.9999.9 hours.

Circle No. 161 on Reader Service Card

Vending Machine

Product: "Bev'Serv 56" upright vending machine.

Manufacturer: La Crosse Cooler Co., La Crosse, Wis.

Features: Seven flavor machine handles 56 bottles in seven trays



with pre-cooling for 26 more. Measures 24½" wide x 20" deep x 55¼" high. Cabinet is of contemporary design. Only two operations are required to obtain beverage.

Circle No. 162 on Reader Service Card

Liquid Coolers

Product: Package liquid cooler.

Manufacturer: Bell & Gossett Co., Morton Grove, Ill.

Features: Completely packaged, all major components built and guar-

REFRIGERATION & AIR-CONDITIONING

NOW!

**A Complete Cooling
and Heating System**

You Can Sell for

Less Than \$1000 Installed!

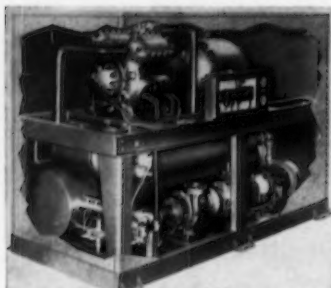


Wire A. M. Castello

The Coleman Company, Inc.

Wichita 1, Kansas

Immediately



anteed by manufacturer. Available in sizes from 7½ to 15 ton capacity. Offers low center of gravity.

Circle No. 163 on Reader Service Card

Air-Cooled Conditioner

Product: Line of air-cooled air-conditioners. Two basic models are available: PAC self-contained, packaged-type; and AC remote condenser-type.

Manufacturer: Thatcher Furnace Co., Garwood, N. J.

Features: PAC units are available in two and three-ton capacities. Can be installed easily. No plumbing or piping required. Need only electric power supply and simple duct work to distribute cooled air. AC units come in three and five tons. Precharged refrigerant piping and quick connect valves cut installation time to minimum. Can be connected

quickly to evaporator section mounted in warm air furnace plenum. This converts warm air heating system to year-round air-conditioning. Both PAC and AC models are wired for single or three-phase circuits.

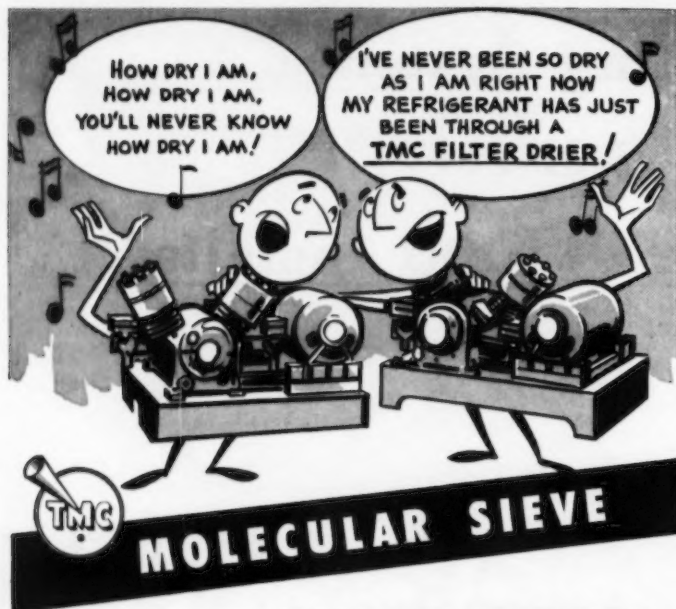
Circle No. 164 on Reader Service Card

Ice Cream Freezer

Product: Ice cream freezer (Model 625).

Manufacturer: Freez-King Corp., Chicago, Ill.

Features: Capacity of about 24 gph, or 14-4 oz. servings per minute. Ideal for drive-in theaters where



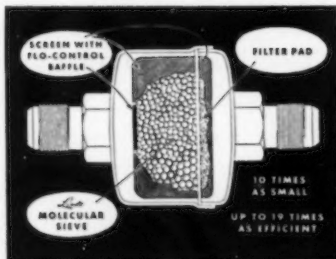
FILTER-DRIERS

1/10 THE SIZE OF OLD-STYLE DRIERS
19 TIMES AS EFFICIENT

Test them and you, too, will join the chorus singing the praises of TMC Filter-Driers with Linde Molecular Sieve. Their radically improved Moisture Removal, Filtration, Acid Removal and Pressure Drop have been proved by nationally recognized laboratories and approved as original equipment by foremost manufacturers.

SAVE ALL ALONG THE LINE

Fifteen-ton TMC Filter-Drier fits palm of your hand...saves space in your system, in your stockroom, in your service trucks. Simplified line means simplified ordering, reduced inventory, lower investment. PRICES... you'll get a pleasant surprise! It will pay you to write for QUESTIONS and ANSWERS Bulletin 1157 RIGHT NOW!



TUBE MANIFOLD

C O R P O R A T I O N
445 BRYANT STREET • N. TONAWANDA, N. Y.

Another Product of the World's Largest Manufacturer of Liquid Receivers

Circle No. 56 on Reader Service Card



peak load output is required. Mere turn of handle starts beater-motor, soft ice cream is dispensed, and feeding device is activated. Positive action portion control maintains perfect balance of product in cylinder, manufacturer says, and will not flood when idling. Height 56"; width 30"; and depth 28".

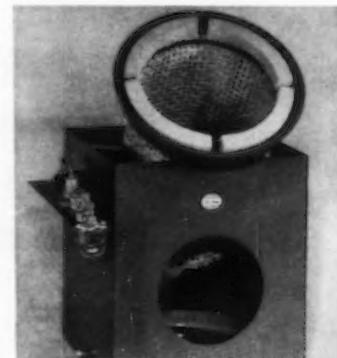
Circle No. 165 on Reader Service Card

Humidifier

Product: Humidifier.

Manufacturer: Air-Heet Corp., Chicago, Ill.

Features: Warm air from furnace is forced through cellulose



sponge yarn basket to absorb moisture and raise relative humidity. Water is absorbed by sponge strips from aluminum trough. Basket provides

Why He's Getting **MORE** Than a Motor



He's getting answers to motor problems the easy way *with the Century Electric Motor Application Guide*

Want a quick, easy way to get answers on motor applications? This easy to follow Century Electric motor application guide will help you do just that. Here's how you can make it work for you.

Suppose you need a motor to drive a fan. Knowing your power supply (a-c or d-c) you look on the chart on page 2 for the motor whose characteristics match the load you want to drive. Having done this it's easy to check the mechanical variations (page 8) to find the enclosure you need—depending on whether it is operating in an explosive, moist, etc. atmosphere. Then you have type, dimensions and operating characteristics, all at your fingertips.

Of course, this is good for simple routine applications. If your problem is more complicated, your Century Electric sales engineer will be glad to help. He can sit down with you and offer on-the-spot advice or if necessary get more complete data—drawing and models for you.

Such help explains why you get *more* than just a motor from Century Electric. Century Electric Company, 18th and Pine St., St. Louis 3, Missouri.

CENTURY ELECTRIC COMPANY
St. Louis 3, Missouri Offices and Stock Points in Principal Cities

Century
68-3

Circle No. 57 on Reader Service Card

over 2000 sq.in. of wetted surface. Comfort level is adjusted by humidistat located for users convenience. Another model available for hot water or steam heating systems. Circle No. 166 on Reader Service Card

Induced-Draft Tower

Product: Induced-draft wood tower ("Permatower") in 11 models —5 tons up.

Manufacturer: Marley Co., Kansas City, Mo.

Features: Reinforced polyesters, phenolic, and kralastic resins and



resin-protected laminates used. Enclosed motors. Mechanical equipment mounted to assure vibration-free operation. New water distribution system incorporates molded kralastic-type resin riser, header, and distribution manifolds. Will not rust or corrode, manufacturer says.

Circle No. 167 on Reader Service Card

Volt-Ammeter

Product: Improved volt-ammeter (Model AC-1) that will help electrical maintenance men spot problems before they cause trouble.

Manufacturer: Columbia Electric Mfg. Co., Cleveland, Ohio.

Features: Measures up to 600 a.c. amps and up to 600 a.c. volts. Gun-type trigger provides means for quick range change. Amp loads are checked easily by clamping unit's jaws around either bare conductors, insulated cable, or bus bars. Equipment can be tested without being shut down.

Circle No. 168 on Reader Service Card

Combination Wall Unit

Product: Built-in wall combination heating cooling unit.

Manufacturer: Lewyt Air Conditioner Corp., Long Island City, New York.

Features: Units are connected to hot water heating system, and built-in coils are installed according to size of room. Cooling system has one ton capacity, controlled by thermostat. Does not project into room and has no overhang. Steel cabinet with heating coils fits underneath.

Pressure-Type Coolers

Product: Restyled pressure-type water coolers.

Manufacturer: Temprite Products Corp., Birmingham, Mich.

Features: Air cooled models have capacities from 8 to 22 gph;



water cooled, 15 and 22 gph. Foot pedal or finger tip control may be used. Includes dual water flow controls. Automatic flow control prevents spurting, and stream guard design prevents splashing. Finished in light, mist grey enamel.

Circle No. 169 on Reader Service Card

Electrostatic Filter

Product: Electrostatic air filter.

Manufacturer: Permatron Corp., Chicago, Ill.

Features: Constructed of woven fabric of high-density plastic with inherent electrostatic characteristics.



Supercharging process increases effectiveness. Filters are mounted in $\frac{1}{4}$ " metal frame. In larger model metal frames are mounted in a steel frame with space between the filters. Can be cleaned with water and returned to service immediately. Available also for window air-conditioners designed for $\frac{1}{2}$ " filters. Special sizes on request.

Circle No. 170 on Reader Service Card

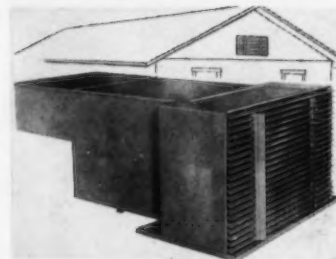
Heat Pump

Products: Packaged air-to-air heat pump (Model 1103-4).

Manufacturer: Airtemp Div., Chrysler Corp., Dayton, Ohio.

Features: Designed for residential use, consists of 3-hp Airtemp air cooled air-conditioner with reversing

valve. Duct type supplemental electric heater accessory can be mounted inside conditioner across discharge air stream. Heater available in 23 or 13.8 kw models. Can be installed in



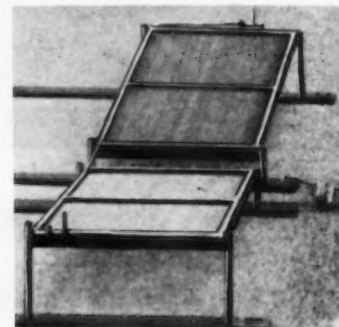
basement, crawl space or attic. Standard equipment includes remote two-step thermostat. Hermetic compressor has built in muffler. Complete unit weighs less than 700 lbs. Circle No. 171 on Reader Service Card

Freon Condenser

Product: "Airvec" air cooled Freon condenser.

Manufacturer: Edwards Engineering Co., Pompton Plains, N.J.

Features: Elimination of fans, motors, wiring, belts and water requirements simplifies installation.



Condenser loses heat through convection, or air-flow. Can be installed on the roof. Roof load is four pounds per sq.ft. Available in 1.25, 2.50 and 3.75 tons. Basic units can be assembled to give desired capacity.

Circle No. 172 on Reader Service Card

Roof Ventilator

Product: Hooded and vertical axial roof ventilator air moving units.

Manufacturer: Trane Co., La Crosse, Wis.

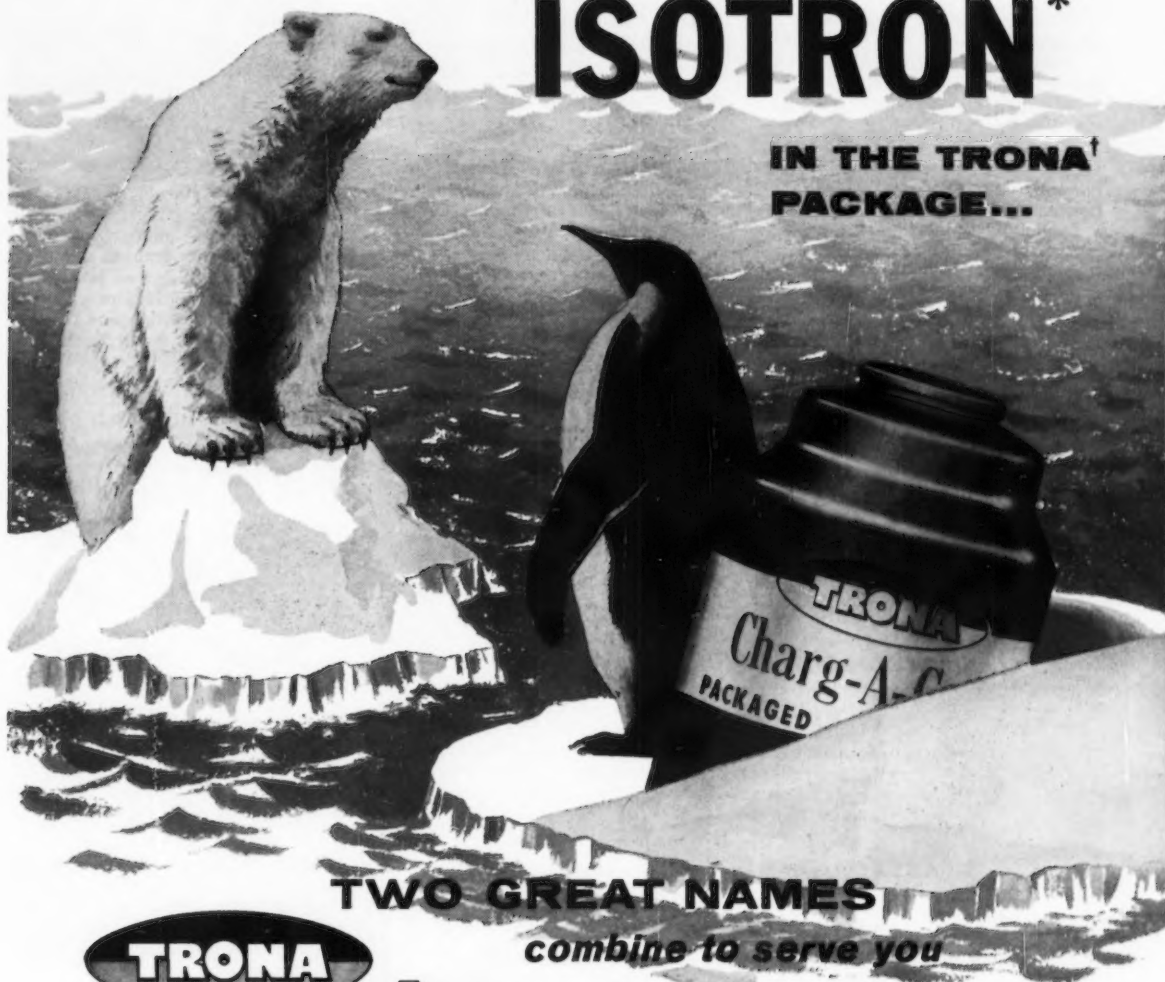
Features: Designed for exhaust or supply service in industrial applications. Three axial roof ventilators offered; hooded unit for exhaust, hooded unit for air supply, vertical exhaust unit for high velocity discharge. All three available with direct or belt-drive in five fan wheel sizes from 24 to 48 inches.

Continued on page 92

What's New in Refrigerants?

ISOTRON*

**IN THE TRONA†
PACKAGE...**



TWO GREAT NAMES

combine to serve you

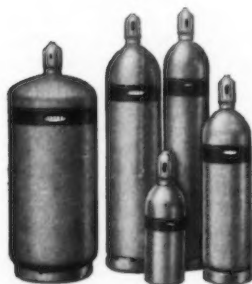


**Pennsalt
Chemicals**

*"ISOTRON" is Pennsalt's registered trademark
for its fluorinated hydrocarbons.

†Trademark AP&CC

Effective immediately two leading factors in the chemical world join forces to serve the refrigerant industry. American Potash & Chemical Corporation, a leading national refrigerant distributor for 20 years, and Pennsalt Chemicals Corporation unite to bring you ISOTRON refrigerants, newest of the fluorinated hydrocarbons in CHARG-A-CAN† disposable containers and bulk cylinders. First with the full line, first in constructive service for wholesalers, contractors and service men, TRONA continues its refrigerant marketing leadership.



FIRST with the **FULL LINE** in disposable CHARG-A-CAN containers and bulk cylinders... ISOTRON-11, ISOTRON-12, ISOTRON-22, ISOTRON-113, ISOTRON-114, METHYL CHLORIDE and SULFUR DIOXIDE.



For further information write

American Potash & Chemical Corporation

3030 West Sixth Street, Los Angeles 54, Calif. | 99 Park Avenue, New York 16, New York

Export Office: 99 Park Avenue, New York 16, New York

Circle No. 58 on Reader Service Card

Capacities range up to 43,200 cfm. Contoured hoods are designed to be weather-proof. Extruded plastic seal around damper seat eliminates air leakage.

Circle No. 173 on Reader Service Card

Liquid Chillers

Product: Cleanable packaged liquid chiller (Type ACI-AA).

Manufacturer: American Coils Co., Farmingdale, N. J.

Features: Refrigerant lines are factory installed to simplify installation and eliminate dirt in system. Can be used for air-conditioning of offices, motels, homes or industry, and

can be installed indoors or outdoors. Can be used with either fresh or salt water. Two water-heads can be removed to clean water passes. Packaged unit consists of built-in air cooled condenser, receiver, and operating and protective controls. Available in 3 to 15 hp.

Circle No. 174 on Reader Service Card

Duct Coupling

Product: "Ventiduct" flexible duct coupling.

Manufacturer: Marman Div., Aeroquip Corp., Los Angeles, Calif.

Features: Coupling material can be cut to the outside diameter

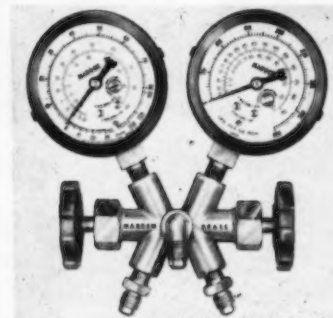


of formed flange. Clips are mounted with needle nose pliers. Gaskets are available for leak-proof installations. Permits dismantling and reassembly of ducts for inspection or cleaning. Stainless steel construction.

Circle No. 175 on Reader Service Card

Charging, Testing Unit

Product: Double-gauge, charging and testing unit for testing and purging both high and low sides.



Manufacturer: Madden Brass Products Co., Aurora, Ill.

Features: Teflon valve seat. Requires only light-hand pressure for positive shut-off. Also has Teflon packing gland.

Circle No. 176 on Reader Service Card

Oil Furnace

Product: Convertible furnace.

Manufacturer: General Electric, Air Conditioning Div., Bloomfield, N. J.

Features: Compact, with low silhouette, furnace is styled to complement most surroundings. Easily converted to gas. Cooling coil can be added to top. Available in 24,000, 30,000, and 36,000 Btu capacities.

Circle No. 177 on Reader Service Card

Cooling Tower

Product: "Sillowette" packaged cooling tower.

Manufacturer: Dover Mfg. Co., Independence, Mo.

Features: Capacity range of 5 to 150 tons. Counterflow, mechani-



19 TIMES AS EFFICIENT

Molecular sieves, the newest class of adsorbents, are the most efficient desiccants on the market . . . have the ability to adsorb at high temperatures up to 19 times more water.

- Eliminate acid corrosion
- No capacity loss due to oil adsorption
- Minimum of pressure drop
- Greater reserve capacity

SMALL IN SIZE . . . ONLY FIVE SIZES HANDLE 1/4 TO 10 TONS

A standard drier can be reduced to a fraction of its usual size with no loss in drying capacity because of greater efficiency of Molecular Sieves. Only five sizes are necessary to handle installations up to 10 tons. This means a minimum inventory and stock control.

ALL COPPER AND BRASS CONSTRUCTION WITH MONEL WIRE CLOTH FILTERS REASONABLY PRICED PERFORMANCE RATED

KMP Moisture Magnets are tested and rated in accordance with ARI STANDARD 710

WRITE for full information. Inquiries welcomed.

KMP

KENMORE MACHINE PRODUCTS, INC.

LYONS, NEW YORK

Circle No. 59 on Reader Service Card

cally induced draft tower with propeller fan and vertical air discharge. Side panels available in colored translucent plastic or galvanized steel, can be removed for servicing. Towers can be joined for installa-



tions exceeding 150 tons. Low in design. Right-angle utility sump simplifies tower flushing, protects pumping equipment from debris and air pockets, eliminates need for additional tower grillage.

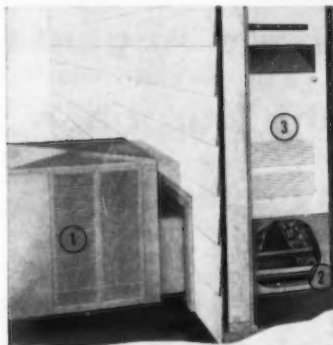
Circle No. 178 on Reader Service Card

Home Air-conditioner

Product: Central home air-conditioner installs through the wall of a house.

Manufacturer: Frigidaire, Div. of General Motors Corp., Dayton, O.

Features: Factory assembled and sealed air cooled condensing



unit (1) and cooling coil (2) can be installed through the side of the house and connected to plenum of down-flow or up-flow warm air furnace (3). Elimination of ductwork and refrigerant lines simplifies installation. Outside condensing unit has removable panels. Entire condensing unit and coil assembly can be removed from outside the house for service. Available in 2 or 3 tons (24,000 or 35,000 Btu's).

Circle No. 179 on Reader Service Card

Combination Units

Product: Heating and ventilating units (Type L, V, VB).

Manufacturer: American Blower Div. of American-Standard, Detroit, Mich.

Features: Units, coils and accessories can be built up in sequence to meet needs of specific job. Type L air handling unit de-

signed for commercial and industrial use. Type V heating and ventilating unit designed to provide complete coverage of central station heating



and ventilating requirements. Heats with either steam or hot water. Type VB heating and ventilating unit is same as Type V, but provides individual zone control of temperature

from a single central unit. Four coil types available for use with units. Circle No. 180 on Reader Service Card

Expansion Valves

Product: "Thermo" expansion valves.

Manufacturer: Alco Valve Co., St. Louis, Mo.

Features: New contour power assembly design increases diaphragm life by limiting amount of flexing to which diaphragm is subjected. New remote bulb and well design gives more rapid response to temperature changes in the line for quick closing

Easy way to control noise and vibration



...install units
on
ISOMODE® PADS

• It's easy to avoid complaints due to annoying vibration and noise. When installing air conditioning units, simply set them on ISOMODE PADS. Just cut what you need for the weight of the unit, place the Pads under each corner and that's it. ISOMODE PADS swallow up vibration, muffle noise on any type floor.

Made of Neoprene, these cross-ribbed, 5/16"-thick pads cut with ordinary shears, need no cementing, resist oils and water, last for years. One standard economy package of ten 18" x 18" ISOMODE PADS gives you enough for mounting 160,000 pounds of equipment. Write for prices and detailed Bulletin No. 415.

MB manufacturing company

A Division of Textron Inc.

1065 State Street, New Haven, Conn.

HEADQUARTERS FOR PRODUCTS TO ISOLATE VIBRATION... TO EXCITE IT... TO MEASURE IT

Circle No. 60 on Reader Service Card

Remember the handy "Genetron" JUG-A-LUG of
two years ago? Now General Chemical
brings you another helpful tool...



FREE

Free between
June 1 and August 1
with the purchase
of any cylinder of

genetron[®] 22

*from your
wholesaler!*

Circle No. 61 on Reader Service Card

CADDY-WRENCH

The all-purpose cylinder wrench and carrying tool



It's a carrying tool! Fits bonnet hole
on small "Genetron" cylinders

It's a wrench!

Fits "Genetron" cylinder valve stems
and valve outlet caps—also fits stems of compressor
service valves, soldering gas cylinders, etc.

Comfortable finger grips

1/4" tool steel, smooth plated finish

Here's a tool you've never seen before—specially designed for the service engineer by General Chemical. It's a combination carrying tool and wrench. We call it a "Caddy-Wrench." And, like the "Jug-a-Lug" which we created for you two years ago, this is a tool that's really helpful, really useful.

Many uses! As a carrying tool, the "Caddy-Wrench" makes it easy to carry small size cylinders

by the hood. *No more cuts, strains and finger injuries!* And as a wrench, it's designed to fit "Genetron" cylinder valve stems and valve outlet caps, also stems of compressor service valves, soldering gas cylinders, etc. *No more adjusting wrenches or using different tools, once you have this all-purpose cylinder wrench and carrying tool!* Made of quarter-inch solid tool steel, it's strong,

sturdy, won't crack, bend or break. And the smooth plated finish makes it a pleasure to use. Be sure you get your "Caddy-Wrench"! *Here's the only way to get one:*

SEE YOUR WHOLESALER! When you buy any size cylinder of "Genetron" 22—between June 1 and August 1 only—your wholesaler will be glad to give you your "Caddy-Wrench" . . . free!

GENERAL CHEMICAL DIVISION

40 Rector Street, New York 6, N. Y.

Circle No. 61 on Reader Service Card



to prevent flood-back and assure smooth control. These features also available on Series T and HTL.

Circle No. 181 on Reader Service Card

Air Filter

Product: "Roll-Kleen Type H" automatic dry type air filter.



Manufacturer: Fatt Co., Los Angeles, Calif.

Features: Can be used as an attachment for all types of air handling units. Heavy gauge metal frame holds large replaceable roll of glass fiber, and power driven take-up spool. Electrical controls govern automatic movement of fiber across the filtering area. Minimum of moving parts are necessary for automatic operation.

Circle No. 182 on Reader Service Card

Heating-Cooling Units

Product: "Win-Sum-Matic" year-round conditioner, and gas-

fired vertical winter conditioner (Model FVS).

Manufacturer: Janitrol Heating and Air Conditioning Div., Surface Combustion Corp., Columbus, Ohio.

Features: Restyled rectangular cabinets finished in two-tone color combinations selected to complement wood tones. Year-round conditioner needs only 4½ sq.ft. of installation space. Available in six sizes from 80,000 to 200,000 Btu/hr. Fire and corrosion resistant heat exchanger warranted by manufacturer for 20 years. Gas-fired winter conditioners available in seven sizes, from 65,000 to 200,000 Btu/hr. Can be converted to year-round conditioning. Can be installed as either high or low boys. All internal parts are accessible from front of unit.

Circle No. 183 on Reader Service Card

Nor-Lake, Inc. 2nd & Elm, Hudson, Wis. (Phone: Hudson 523) Dept. 203

Please rush FREE illustrated literature on: Freezers ☐ Refrigerators ☐ Coolers ☐

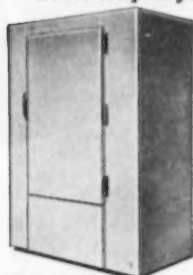
NAME _____

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CITY _____ STATE _____

IT'S NOR-LAKE FOR ALL YOUR REFRIGERATION NEEDS

Find out which unit suits you best
Mail coupon for FREE literature



REFRIGERATORS—Handy "Reach-In" refrigerators. All have special moisture evaporator that eliminates need for drain connection, adjustable wire shelves, heavy duty blower coil that maintains constant temperature. *Three sizes!* All have thick Fiberglas insulation, embossed aluminum interiors and heavy-gauge steel exteriors.



FREEZERS—Big 27 cu. ft. capacity upright freezer shown. Offers high density Fiberglas insulation and individually copper-tubed shelves for faster, more uniform freezing. Heavy-gauge steel construction with aluminum liner and shelves. Heater strips around door prevent sweating. Models down to 20.2 cu. ft.

COOLERS—Here's a full line of Fiberglas insulated beverage coolers with disappearing doors. This beautiful Lo-Boy Cooler is just one of many that can save you space, time, money. 9 models of Slant-Top Coolers with recessed bases and complete stainless top construction are also available. Discover Nor-Lake. Mail coupon today.



Nor-Lake also builds the finest walk-in coolers, cube makers, beer taps and bottle dispensers. Complete line available in stainless steel.

For better freezing, cooling or storing, look to the nation's northland and—

NOR-LAKE, Inc. Hudson, Wisconsin

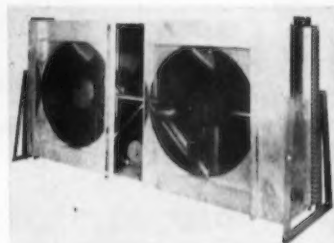
Circle No. 62 on Reader Service Card

Air Cooled Condensers

Product: "Dricon" air cooled condensers in two larger models (DC-30, DC-40).

Manufacturer: Recold Corp., Los Angeles, Calif.

Features: For large applications where water is not accessible. Can

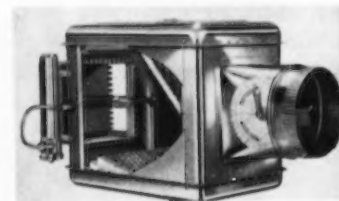


be grouped in multiples to fit larger installations. Motor located inside unit for weather protection. Balanced circuiting increases coil efficiency. Adjustable angle iron stand furnished. DC-30 and DC-40 rated at 30 and 40 tons respectively.

Circle No. 184 on Reader Service Card

Spray Humidifier

Product: "Humidspray" automatic spray humidifier that fits all forced air heating systems.



Manufacturer: Lennox Industries Inc., Marshalltown, Iowa.

Features: Evaporates up to 18 gallons per day, and automatically humidifies according to amount of air flow. Continuous spray eliminates



Ultra-Sorb drying agent adsorbs more, retains more moisture—even at high temperatures

There's no such thing as a *little* moisture in a refrigerating system. A tiny trace can spell big trouble for the user, and for the installer or serviceman. That's why profit-wise operators use Frigidaire *Ultra-Sorb* Thuro-Driers—and nothing else—to clean and dehydrate every type of refrigerating and air conditioning system.

Ultra-Sorb Thuro-Driers are superior to ordinary dehydrators in three important ways:

FIRST—New "wonder" drying agent adsorbs more moisture, more acids, and salts than other materials used for this purpose.

SECOND—Ultra-Sorb drying agent has the unusual ability to hold moisture at *high temperature*, when other materials release it back into the system.

THIRD—Ultra-Sorb drying agent is in the form of clean hard beads, minimizing pressure loss. It does not break down—may be left in the system permanently.

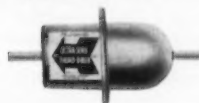
THE FRIGIDAIRE DISTRICT OFFICE serving your area has Ultra-Sorb Thuro-Driers for every need and purpose. Also a complete selection of precision-built genuine Frigidaire parts and accessories, famous for quality and dependability.



FREE 12-page illustrated booklet describing new, improved procedures for cleaning, dehydrating sealed and open-type systems, in the shop and on the job. Mail coupon or write Frigidaire, Dayton 1, Ohio.

A COMPLETE LINE FROM ONE SOURCE

Every Type, Every Size You Need



For capillary systems



Solderless, flare, and sweat fittings



1/8 to 20 H.P. capacities



Matching Frigidaire refrigerant control valves

Expansion and cooling unit control valves for finest performance of any refrigeration system.

FRIGIDAIRE
Ultra-Sorb THURO-DRIERS

Service Department 1002

Frigidaire Div., General Motors, Dayton 1, Ohio

Send **FREE** booklet on cleaning and dehydration.

Name

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City Zone State

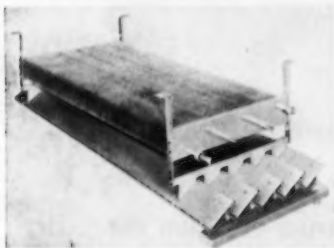
clogging and makes humidifier self-cleaning. Excess water is piped to nearby drain. Manual control regulates air flow through the spray. Circle No. 185 on Reader Service Card

Baffle Cooler Coil

Product: Series of baffle cooler coils.

Manufacturer: Larkin Coils, Inc., Atlanta, Ga.

Features: Available as complete unit. Consists of aluminum, cross-fin coil. Double-louvered baffle with



drain pan and hangers. Expanded and standardized line simplifies selection of units for most installations. Easily removed for cleaning. May be raised or lowered as needed. Special sizes may be ordered. May be fabricated in finned lengths from 36" up to 180"-in increments of 6", with $\frac{3}{8}$ " or $\frac{1}{2}$ " fin spacing.

Circle No. 186 on Reader Service Card

Condensing Unit

Product: Air cooled 3-hp condensing unit (Model 1203-4).

Manufacturer: Airtemp Div., Chrysler Corp., Dayton, Ohio.

Features: For residential or commercial cooling, can be connect-



ed to coils in new or existing forced air heating systems. Weighs less than 300 lbs., requires 8.5 sq.ft. of installation space. New Airtemp-manufactured hermetic compressor; built-in service valves and service gauge connections. Has been approved for outdoor installation.

Circle No. 187 on Reader Service Card

Water Cooler-Refrigerator

Product: "Cool-R-Frig," combination refrigerator water cooler.

Manufacturer: Sunroc Corp., Glen Riddle, Pa.

Features: Cooler gives cold water for drinking and 185 F water for hot drinks. Refrigerator has over 1 cu.ft. storage space, freezing compartment with two aluminum ice



cube trays, full-length side-hinged door recessed for extra refrigerated storage. Cooler holds 3 or 5-gallon bottle. Available in model BC-H for cold and hot water, or model BC, cold water only.

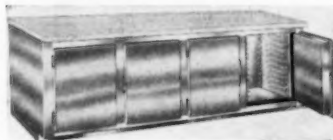
Circle No. 188 on Reader Service Card

Baker's Tables

Product: Refrigerated baker's tables.

Manufacturer: Frigid Igloo Mfg., Corp., Yonkers, N.Y.

Features: All welded steel construction, with laminated maple



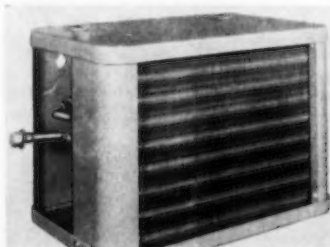
work tops. Solid swinging die-formed doors. Breaker strips around door openings. Heavy duty wire tray slides with 2" spacing. All models have mullion type heavy duty blowers. Available in remote or self-contained models, ranging from 4 to 10'.

Circle No. 189 on Reader Service Card

Unit Cooler

Product: Two-way unit cooler (Model TW-280).

Manufacturer: McQuay, Inc., Minneapolis, Minn.



Features: Designed for cooling back bars, reach-ins and small walk-in refrigerators. Has dual side air discharge. Available in five sizes from 800 to 2800 Btuh at ten degrees t.d., and from 144 to 360 cfm. Neutral gray hammertone enamel finish. Can be wall or ceiling mounted.

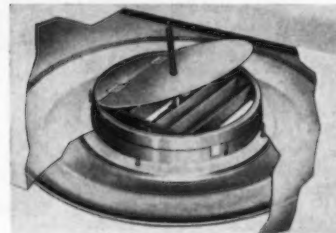
Circle No. 190 on Reader Service Card

Fixed-Cone Diffuser

Product: Fixed-cone diffuser with damper (Model E-3).

Manufacturer: Carnes Corp., Verona, Wis.

Features: Applicable for stub duct or exposed duct installations.



Damper is furnished with "S" clips attached for ease of installation. Damper blade can be adjusted from face of diffuser with a screwdriver. Equalizer-deflector grids are accessible by removing center cone.

Circle No. 191 on Reader Service Card

Cafeteria Refrigerator

Product: Sliding door refrigerator.

Manufacturer: C. Schmidt Co., Cincinnati, Ohio.

Features: Room for 48 cafeteria trays behind each door for items



such as butter chips, or 24 trays for salads and desserts. Use of tray slides instead of shelves provides

Continued on page 124

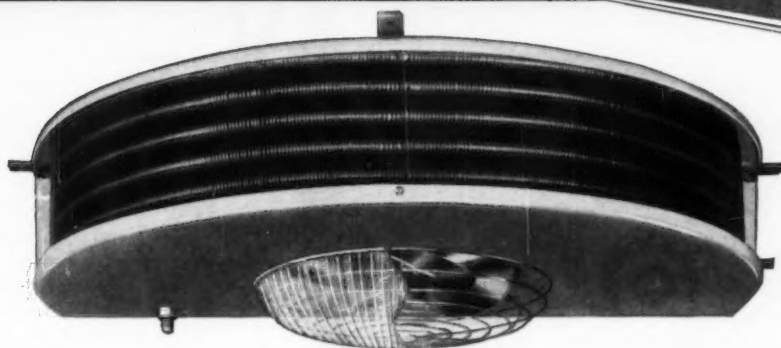
**BUY FROM YOUR
REFRIGERATION WHOLESALER**

MAIL COUPON FOR

New product application guide

... helps you to quickly select the exact type, size and capacity unit for each requirement.

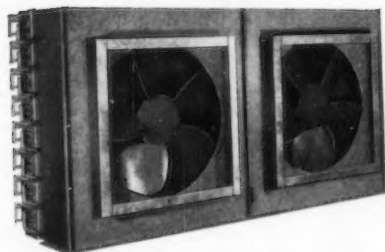
KRACK'S varied line also offers you advantages in product performance and lower prices to help you bid competitively and land more jobs. One convenient source gives you a complete selection of high or low temperature units for storage, processing, commercial, industrial and residential requirements.



"FROST-FREE" SEMI-CIRCULAR UNIT COOLERS

save space in walk-in refrigerators and cold storage rooms

- * 360 to 1075 BTU/hr at 1° T.D.
- * Underwriters' Laboratories Approved
- * Electrostatic air filter
- * Hinged drain pan for easy access



AIR COOLED CONDENSERS for refrigeration and air conditioning

- * 1 to 50 tons
- * "Whisper-quiet" operation
- * Available with multi-circuiting
- * Field-tested winter controls



Refrigeration Appliances, Inc.
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Chicago 7, Illinois

Manufacturers of freon, ammonia and flooded ammonia heat transfer equipment

Send FREE Product Application Guide to help me quote competitively and increase my business.

Name _____
Firm _____
Address _____
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0308

Another First from

DOVER

The First Packaged Cooling Tower with **SELF-CLEANSING BASIN** and **ALL-PURPOSE** **Right-Angle UTILITY SUMP**



Series CF
Horizontal Induced Draft
2 to 200 tons capacity

Dover adds another first to an already impressive list of achievements in the cooling tower industry.

The Dover self-cleansing basin and all-purpose right angle utility sump bring you such advantages as:

SLOPING BASIN . . . basin collects all mud and debris in one section for easy removal through sump flush-out opening.

MUD RISER PROTECTS PUMPING SYSTEM . . . suction line and pump are protected against air intake and harmful foreign matter.

DRAIN DRY FEATURE . . . right angle sump can be adjusted so that basin drains dry each time system shuts off . . . simplifies servicing and winter shut-down.

EASY FIELD HOOK-UP . . . right angle sump provides bottom suction with side pipe-up . . . eliminates need of costly grillage to elevate tower. Tower rests on its own skids.

DOVER

MANUFACTURING COMPANY

Dept. 101, 3117 Weatherford Avenue
Independence, Missouri

Circle No. 66 on Reader Service Card

FULL DETAILS . . . are yours for the asking. Just a note will do. We'll send you all the information you want and need on the all new Dover Series CF towers. Write today!

CUT SERVICE COSTS

Continued from page 67

tries under the "equipment used" column, noting the quantity and description of parts. He also enters the man hours spent and work performed. In neither case, however, does he enter the unit figures or make the extensions.

The serviceman obtains the customer's signature which is an acknowledgement of work performed and refers him to the "terms and conditions" on the reverse side of the form.

The form is then returned to the clerk, who enters the billing for parts and labor, and totals the invoice. On the perforated section the clerk enters the dealer cost of equipment. The form then can be used for internal costing procedures.

When completed, the invoice shows the customer what equipment was used, how much time was spent, and what work was performed. Prices are all itemized separately and totaled. The form is then detached and folded to show the customer's name and address in a window envelope.

The efficiency of this system was tested during a peak service period. Even at its busiest, Air Conditioning Corp. was never more than a few days behind in billing. Result: the customer gets the bill when the service is fresh in his mind.

MAGAZINE PULLS COOL SWITCH

Officials of *TV Guide Magazine* counted heavily on air conditioning in making the move into their new office building in Radnor Township, west of Philadelphia.

As an inducement to employees to commute into the suburbs, a distance of 13 miles from the former downtown office, a system for completely air-conditioning the modern, one-story building was installed at the time of construction.

"The benefits of air-conditioning have been demonstrated clearly in our regional offices throughout the country," according to James T. Quirk, publisher.

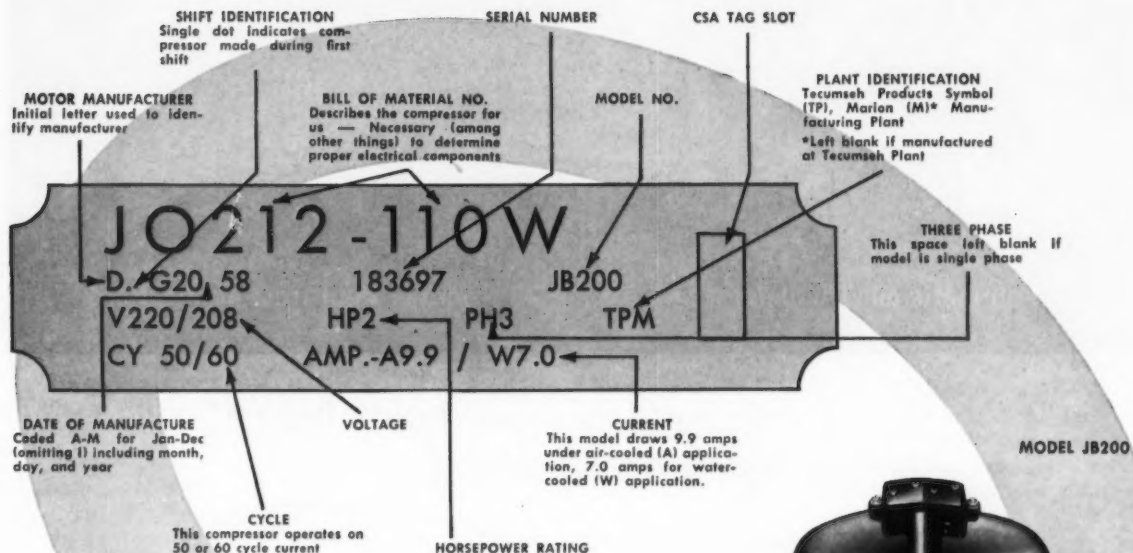
"In addition to healthful working conditions and increased efficiency, we banked on air-conditioning to give us one more advantage—that of helping to hold our experienced staff of 285 persons when we moved."

Some 95% made the switch, Quirk said.



Herman Hermetic Hints

ON Proper Compressor Identification



Tecumseh compressor serial plates are as valuable as fingerprints in identifying your particular model. These embossed plates, which you will find spot-welded to the shell of every Tecumseh and Marion compressor, carry all information pertinent to the compressor. This most recent serial plate revision (effective with 1958 production) emphasizes legibility and also makes provision by way of the slot at the right, for attachment of the CSA (Canadian Standards Association) tag where required. Know your serial plate: With this information your Tecumseh wholesaler can supply you with exact replacement parts or the proper replacement compressor.



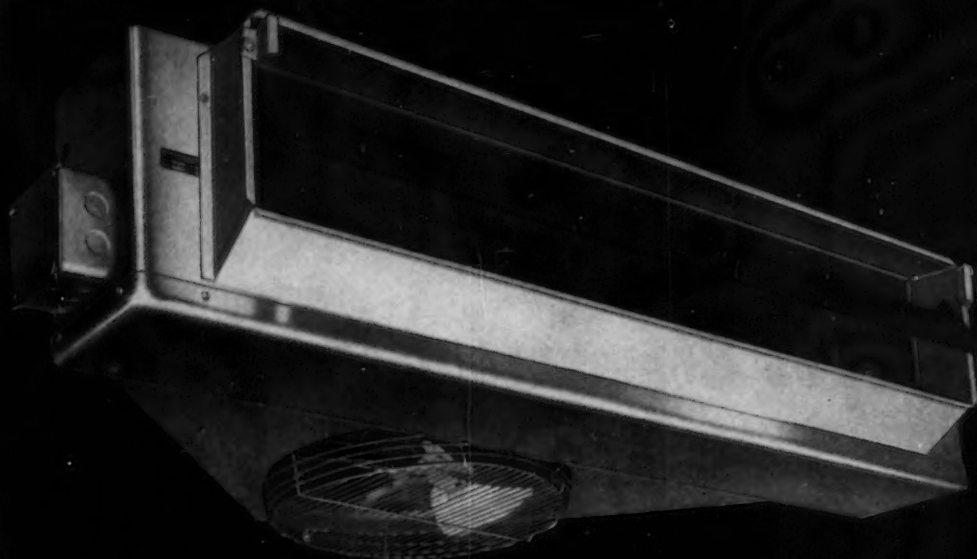
The Leader Serving Leaders in the Air Conditioning and Refrigeration Industries

TECUMSEH PRODUCTS COMPANY

MARION, OHIO

TECUMSEH, MICHIGAN

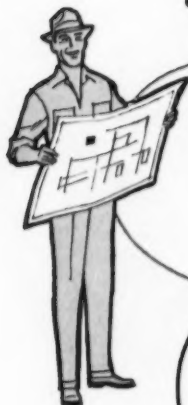
EXPORT DEPT: P. O. Box 2280, 24530 Michigan Ave., W. Dearborn, Michigan



deltric

Automatic electric defrost unit for the 28" room or light frost application.

Exclusive Thermovane holds heat at coils
assuring fast, positive defrost



... selected by Mr. Contractor because
of the economy and ease of installation and the
simplicity of service.

... selected by Mr. Butcher because
it keeps meat firm and easy to cut, keeps defrost
heat from the meat and requires less box space.



RECOLD

CORPORATION

7250 East Slauson Avenue
Los Angeles 22, California

PARAGON EXTENDS PRICE DECLINE GUARANTEE

Paragon Electric Co.'s, distributors, wholesalers, jobbers, and national distributors are assured of a total 120-day guarantee against price decline after date of shipment. This is the result of a 30-day extension of the company's price decline protection. The new policy will not be extended to original equipment manufacturers, private label accounts or contract items.

In the same statement Paragon announced an increase in orders of over 14% for the first quarter of 1958 over that same period for the previous year.

COBELL INDUSTRIES OCCUPIES NEW PLANT

Cobell Industries Inc. has moved its executive offices and production facilities to the company's new plant in Cleburne, Tex. The 40,000-sq.-ft. plant is equipped to meet expanded production requirements. In line with the move, Cobell will market all units under the single brand name "Rangaire".

TRANE ADDS EIGHTH REGIONAL WAREHOUSE

Trane Co. has established its eighth regional warehouse distributing center in Miami, Fla.

The warehouses provide immediate deliveries of self-contained air conditioners — and residential units when available in midsummer — to Trane dealers throughout the country.

CHASE GETS NEW BRANCH HOME



NEW WEST COAST HOME of Chase Brass & Copper Co., Inc. is this 62,000-sq.-ft. warehouse and distribution center. The modern one story concrete structure is located at 230 Shaw Rd. in South San Francisco, Calif. It replaces the company's old warehouse which had proven too small for present requirements and future expansion.

ZOO MAKES PENGUINS "COMFY"



MAKING PENGUINS FEEL AT HOME in the Washington, D.C. zoo was accomplished with the aid of a floor type central station air-conditioning unit. Temperature is kept at 45 F, and air is filtered to remove germs to which penguins are susceptible. A painted background of Antarctica completes the illusion.



TEST MISSILE IS REMOVED after undergoing complete environmental simulation in "Stratosphere" chamber supplied by Tenney Engineering, Inc., for new \$500,000 laboratory for Canadian Westinghouse Co., Hamilton, Ont. The electronics plant is equipped with two of the chambers and is designed to test airborne electronic equipment. Specifications called for a unit that could simulate all the varying climatic conditions called for in government requirements.

HANDLES MITCHELL LINE

Mitchell Mfg. Co. has appointed Graybar Electric Co., Inc., Washington, D. C., as its franchised room air conditioner and dehumidifier distributor.

Bob Orton, Jr. will be responsible for sales in the Graybar distributorship.

NEW CARRIER PRODUCTS IN \$80 MILLION FIELD

Entry into a field which accounted for \$80 million in heating industry sales in 1956 has been announced by the Unitary Equipment Div. of Carrier Corp., with its introduction of gas and oil fired steel boilers.

Designed to supply steam or hot water for heating commercial buildings of moderate size, the boilers will expand the range of Carrier products for year-round air-conditioning installations.

QUIZ-CLINIC FEATURES SUPPLY BRANCH OPENING

A quiz-clinic featured the recent opening of Climate Supply Co.'s new Tyler, Tex., store. About 250 persons attended, some from New York, Kansas City, and Norfolk. They asked questions and discussed problems with factory men.

Ray Polley, owner of Climate Supply, Dallas, established the new Tyler branch. Polley trained three men at the Dallas plant to take over in Tyler. They are Claude Calvert, manager; Bill Chandler, salesman; and Wayne Webb, counterman.

ALL STANDARD D-H "PERMA-FAN"

DRAYER

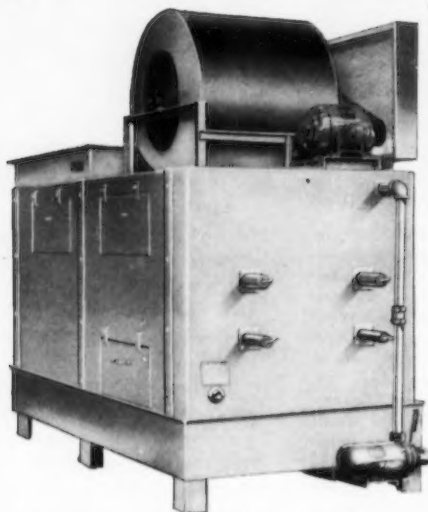
EVAPORATIVE CONDENSERS

HANSON

ARE HOT-DIP GALVANIZED

"PERMA-FAN"

AFTER FABRICATION!



A D-H EXCLUSIVE! FOR FREON 12; FREON 22; AMMONIA. THE D-H PIONEERED BLOW-THRU PRINCIPLE... NOT DRAW-THRU! PRIMARY COIL SURFACE COPPER TUBING. VOLUME DAMPER ADJUSTMENTS. PRICE? WAY DOWN, ON BEDROCK! 12 MORE FEATURES SHOWN IN OUR "PERMA-FAN" BULLETIN. MAY WE SEND YOU A COPY? WRITE:



drayer-hanson
DIVISION OF NATIONAL U.S. RADIATOR CORP.

3301 MEDFORD STREET
LOS ANGELES 63, CALIFORNIA

CABLE: CLINCONI LOS ANGELES

Circle No. 68 on Reader Service Card

USEFUL Literature

(For news of New Products turn to page 84)

PROPELLER FAN COOLING TOWERS are described in a bulletin (EC-500) published by Halstead & Mitchell. Complete description of belt drive, direct drive and take-apart models in capacities of 2 to 125 tons is given. Includes rating data for proper selection, suggested installations, and a diagram showing recommended piping for winter tower operation.

Circle No. 222 on Reader Service Card

BOXED SAMPLES of "Uni-Crest," expanded polystyrene plastic insulation material is being offered by United Cork Cos. The low rate of heat transfer makes the material applicable for use as low temperature insulation. Has resistance to moisture, fungi, vermin or rot, and is light weight. Company also offers technical service on applications.

Circle No. 223 on Reader Service Card

ENGINEERING MANUAL (Bulletin 141) covering theory and application of evaporative condensers is presented by Baltimore Aircoil Co. Describes units from basic design through installation and refrigerant piping.

Circle No. 224 on Reader Service Card

COIL AND BAFFLE COMBINATIONS are featured in a bulletin (CB 276-C) published by Kramer Trenton Co. Describes feature which permits the use of a deeper primary trough and reduces dripping. Also includes performance and dimension tables, technical dimensional illustrations and a rapid selection table.

Circle No. 225 on Reader Service Card

CENTRIFUGAL PUMP applications and features are itemized in a bulletin (1440) by Dunham-Bush, Inc. Diagram shows triplicate use of pump in hot or chilled water systems and as circulator in cooling tower installation. Also includes engineering data and dimensions.

Circle No. 226 on Reader Service Card

VALVES, DRIERS, STRAINERS and accessories for refrigeration, air-conditioning and industrial applications are listed in a catalog (103) presented by Henry Valve Co. Includes information on packless line shut-off valves, liquid indicators, and filter-driers.

Circle No. 227 on Reader Service Card

CABINET HEATERS by American Blower Div. of American-Standard are described in a bulletin (9617) issued by that company. Tables of steam and hot water capacities are included along with 43 possible mounting arrangements. Also gives engineering data such as Btu correction factors and cfm conversion factors. Drawings illustrate piping installations, details and dimensions.

Circle No. 228 on Reader Service Card

FREON CONDENSERS are highlighted in folder published by Edwards Engineering Corp. Fanless, air-cooled condenser sales features are listed. Includes operation, and principles for condensing Freon.

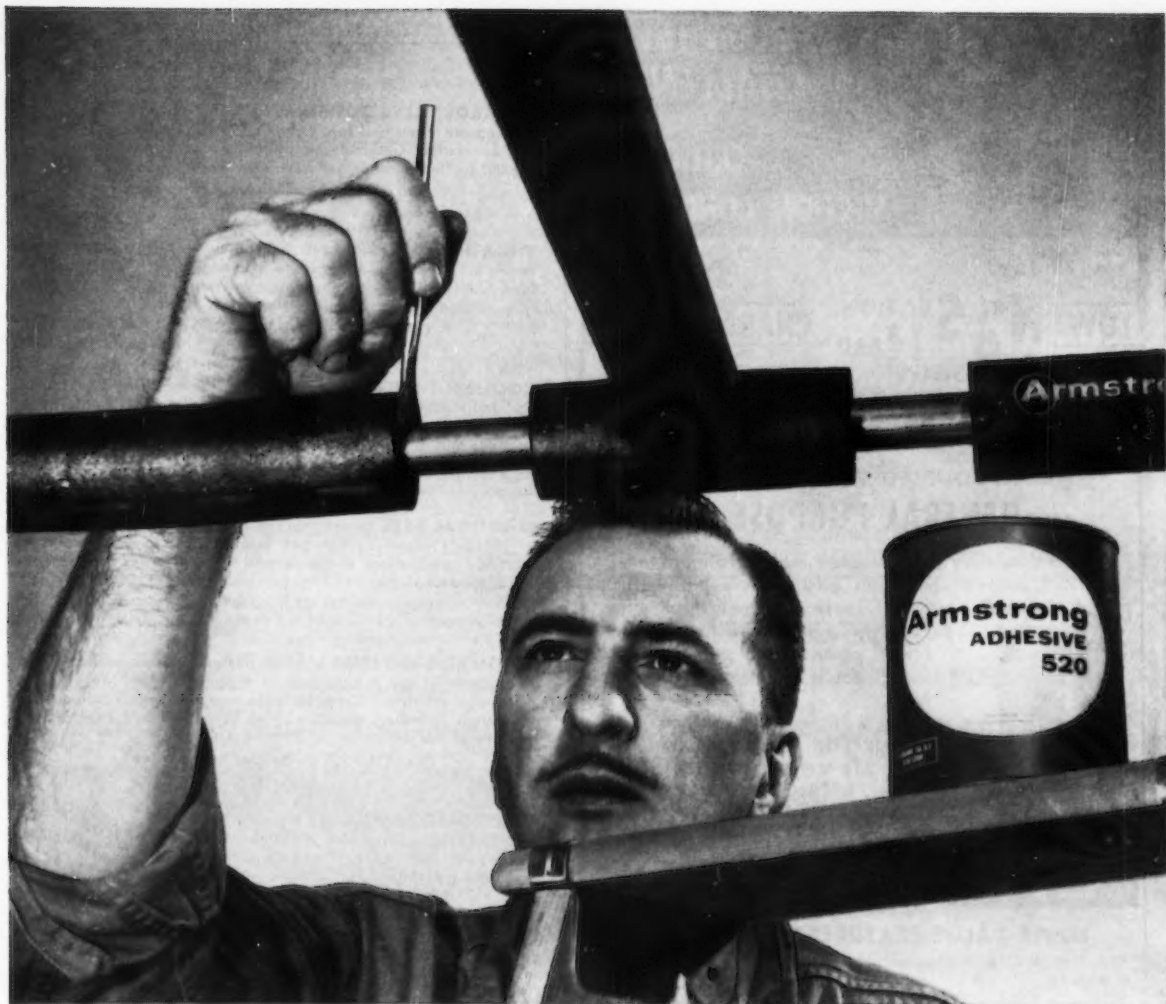
Circle No. 229 on Reader Service Card

INDUSTRIAL HEATERS are presented in Bulletin 750A published by American Air Filter Co. Includes a complete description of the heater and its component parts, performance tables, dimensions, suggested specifications, and materials used in construction.

Circle No. 230 on Reader Service Card

(More Useful Literature on page 106)

REFRIGERATION & AIR-CONDITIONING



Waterproof joints are assured when you use Armstrong 520 Adhesive. The cement forms a strong bond that resists deterioration with age.

520 Adhesive assures vapor-tight joints on Armaflex insulated lines



Look for Andy Armaflex on displays or window or door decals. He identifies the wholesaler who sells Armaflex.

Cold line insulation must be sealed tight against vapor if it is to stay dry and efficient in service. For a tight job, vaporproof Armaflex pipe covering should be applied with vaporproof 520 Adhesive. Its waterproof bond provides an excellent seal at all joints, grows stronger with time, and resists deterioration as it ages. 520 Adhesive is easy to use. A thin brush coat is applied to both surfaces to be joined, allowed to dry, and the surfaces are pressed together.

This adhesive is the only sundry material required for the installation of Armstrong Armaflex. No bands, twine, protective coatings, canvas, or cements are necessary. Fitting covers are made up from miter-cut Armaflex pieces, assembled with 520 Adhesive.

Full details on Armstrong 520 Adhesive, as well as Armaflex Pipe Covering, are contained in free descriptive folder. For your copy, write today to Armstrong Cork Company, 2205 Rumford Avenue, Lancaster, Pennsylvania.

Armstrong INSULATIONS

Circle No. 69 on Reader Service Card



with the

LOW NET SUCTION HEAD POSITIVE CHARACTERISTICS

AURORA®

CLOSE-COUPLED TYPE B CENTRIFUGAL GENERAL PURPOSE PUMPS

Modern industry is confronted more and more with critical suction conditions arising from hot water and chemical handling. These extremely high efficiency, compact, flexible and low NPSH pumps are a welcome answer. You'll be glad to get the facts.



**TYPE BJP
FLANGE MOUNTED**

IDEAL for THESE DUTIES
AIR CONDITIONING
REFRIGERATION
COOLANT
HOT WATER
CHEMICAL*
GENERAL PURPOSE

*MAY BE FURNISHED IN SPECIAL ALLOYS TO MEET SPECIFIC CONDITIONS

MANY VALUE FEATURES

SEAL or GLANDS — Available in either as desired.
SPEEDS — 3,500, 1,750 (60 cycle) and 2,880, 1,440 (50 cycle) speeds.
CURRENT — AC or DC — All voltages and phases.
MOTORS — 1/4 to 7 1/2 H.P. drip-proof, splash-proof, totally enclosed, explosion-proof and chemical. Quiet, efficient NEMA standard.
COMPACT — QUIET — ECONOMICAL.
ALSO AVAILABLE — in Type BJP Pedestal Mounted.



TYPE BJH HORIZONTAL

CONSULT WITH US

Aurora engineers will appreciate specifications of your difficult jobs. Only the RIGHT pump does the job RIGHT.

*Your Inquiries Will Receive Prompt Attention
DISTRIBUTORS IN PRINCIPAL CITIES*

AURORA PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY

21 LOUCKS STREET • AURORA • ILLINOIS
EXPORT DEPARTMENT — Aurora, Illinois — Cable Address "NYABINT"



**TYPE BJV
BASE MOUNTED**

WRITE
FOR
BULLETIN
119J

PUMPS
"by Aurora"
for EVERY NEED
in INDUSTRY
WATER SUPPLY
CONDENSATE
BOILER FEED
PROCESSING
BOOSTER
TRANSFER
ETC., ETC.,
Ask for CATALOG "M"

USEFUL LITERATURE

Continued from page 104

CONTROL VALVE COMBINATIONS for automatic hot gas defrosting are described in a bulletin (90-10) issued by Refrigerating Specialties Co. Includes selection and capacity tables for special suction and hot gas solenoid valves.

Circle No. 231 on Reader Service Card

VIBRATION, SHOCK, AND NOISE controlling material, Armstrong's "Vibracort", is featured in a bulletin (VC-501) by Korfund Co., Inc. Includes description of the construction, installation, physical properties and performance curves.

Circle No. 232 on Reader Service Card

COOLING TOWER features are listed in folder by Dover Mfg. Co. Individual specification sheets describe sales features of natural draft and induced draft models. Engineering data, specifications and dimensions are provided.

Circle No. 233 on Reader Service Card

PRACTICAL USES for modern time controls are listed in a booklet (5820-T) issued by Paragon Electric Co. Gives examples of everyday applications of timers, and includes order form for detailed product data.

Circle No. 234 on Reader Service Card

AUTOMATIC ICE CUBE MAKER designed for domestic as well as commercial use is described in a bulletin (355716) by RCA Whirlpool, Whirlpool Corp. Includes complete specifications and dimensions including capacity. Also lists sales and construction features of the unit.

Circle No. 235 on Reader Service Card

ELECTRONIC AIR FILTERS for use in the home are described in data book (256-E2) issued by American Air Filter Co., Inc. Includes sales features, performance data and specifications. Also shown are typical installations and operation.

Circle No. 236 on Reader Service Card

QUESTIONS AND ANSWERS on glassed centrifugal pumps are given in booklet titled "It's What's Inside That Counts", published by Goulds Pumps, Inc. Also includes a brief history of the development of the pump.

Circle No. 237 on Reader Service Card

UNIT AIR-CONDITIONERS manufactured by Frick Co. are described in that company's new Bulletin 522-F. Shows five different models, and lists sales features, dimensions and specifications.

Circle No. 238 on Reader Service Card

FOOD SERVICE OPERATIONS in the Philadelphia area using Foster refrigerators and freezers are presented in brochure titled "The Philadelphia Story". Published by Foster Refrigerator Corp.

Circle No. 239 on Reader Service Card

COLD PLATES and assemblies for refrigeration applications are highlighted in a folder published by Dean Products, Inc. Lists details of complete line of cold plates and suggested applications.

Circle No. 240 on Reader Service Card

HUMIDIFIER ADVANTAGES are listed in a leaflet issued by Air-Heet Corp. Photograph shows component parts. Includes description of units, installation of unit in conjunction with a furnace, and complete operating instructions.

Circle No. 241 on Reader Service Card

AUTOMATIC CONTROLS for humidifiers and dehumidifiers are described in sales literature offered by Friez Instrument Div. of Bendix Aviation Corp.

Circle No. 242 on Reader Service Card

Circle No. 70 on Reader Service Card

ENGINEERING DATA is presented in two leaflets (PC) published by Drayer-Hanson Div. of National-U.S. Radiator Corp. Gives features and description of company's cooler line. General usage and application data covers phases of product operation. Also lists selection tables, suggested accumulator arrangements, and piping methods.

Circle No. 243 on Reader Service Card

ELECTRIC FOOD WARMERS are shown in circular issued by Bastian-Blessing Co. Covers sales features, performance and operation of complete line. Specifications, dimensions, electrical characteristics and typical wiring diagram are also given.

Circle No. 244 on Reader Service Card

ELECTRIC UNIT VENTILATOR information is offered in literature issued by Edwin L. Wiegand Co. on its "Chromalox" line. Includes sample architectural specifications, performance tables, model descriptions, and dimensions.

Circle No. 245 on Reader Service Card

DESIGN INFORMATION on "Ceramiduct" heating duct material for radial and perimeter heating has been published in a revised manual (SB-357-50) by Straitsville Brick Co. Includes specifications, performance data, and installation notes.

Circle No. 246 on Reader Service Card

AIR DIFFUSERS are presented in 64-page engineering manual (No. 34) issued by Universal Diffuser Corp. Entire line is shown with performance data, specifications and dimensions. Includes typical and unusual installations, and general information.

Circle No. 247 on Reader Service Card

DALLAS WHOLESALE OPENS BRANCH



FLORAL DESIGN of a "Polly" (one of many floral gifts from manufacturers in honor of open house) is shown (top) with Ray Polley, president of Climate Supply Co., Mrs. Polley, and H. Burki, General Chemical Co. Discussing a manufacturer's display (bottom) are left to right, George Sexton, J. Crane, Gene Crockett, and Jim Mays. The new branch is in Tyler, Tex.



AMERICAN-Standard*
BRINGS YOU AN UNPRECEDENTED

USE-IT-YOURSELF

AIR CONDITIONING OFFER

It's hard to sell a product you don't use yourself—especially when the customer knows that you don't. Yet some air conditioning dealers are still living in non-air-conditioned homes . . . and conduct business from non-air-conditioned shops and showrooms.

To eliminate this sales handicap, American-Standard Air Conditioning Division presents a new and unique Use-It-Yourself Air Conditioning Offer. This offer enables you to install full-scale air conditioning in your home or place of business at a low cost you would hardly have believed possible. We've gone all out to make the deal irresistible because we know that when your friends, neighbors or customers actually see and feel the benefits your system produces, they too will want air conditioning. As the Du Pont Survey pointed out, neighbors of central air conditioning users are the best source of additional sales by a ratio of more than 3 to 1!

Nothing sells air conditioning like air conditioning itself. So *Use-It-Yourself* and watch your sales grow. Your local distributor for American-Standard Air Conditioning Division products is the man to see.

* **AMERICAN-Standard** and **Standard**® are trademarks of American Radiator & Standard Sanitary Corporation.



AMERICAN-Standard

AIR CONDITIONING DIVISION

Circle No. 71 on Reader Service Card

WITT *Air Cooled Condensers*



Now **WITH BLOWER or BLADE TYPE FANS**

MULTIPLE CIRCUIT AT NO ADDITIONAL COST

Positive Automatic Control System For Winter Operation

The most complete air cooled condenser line offered. **BLADE FAN TYPE** in capacities from 2 to 40 ton for commercial and heavy industrial installations. **WHEEL TYPE BLOWERS** from 2½ to 15 ton for residence, hospital or any place where utmost in quietness is necessary.

Where water supply is taxed or limited, or water corrodes water cooled condensers, the sensible answer to your air conditioning or refrigeration condensing problem is a **WITT AIR COOLED CONDENSER**.

Same units applicable for indoor or outdoor installation. Outstanding results and the price is unbelievably low.

WOULD YOU LIKE A CATALOG?

A. H. WITT COMPANY, Inc.
940 North Sycamore Ave.
Los Angeles 38, Calif.

ONE OF A FINE LINE OF
WITT Coils

Dealer-Distributor APPOINTMENTS

Weber Showcase & Fixture Co., Inc. has appointed three new distributors to handle the company's line of ice cream cabinets. **Meyer-Blanke Co.** will represent the firm in the Kansas City and St. Louis, Mo., territories. **D. K. Baxter Co.** covers Sioux City, Iowa, and **Major Appliance Co.** will cover Omaha, Neb.

C. J. Bomanz Sales Co., recently established in Arlington Heights, Ill., by Carl J. Bomanz, has been appointed sales representative in the north central states by **Remco, Inc.** Territory covered will include the northern half of Illinois, western half of Michigan, northern Indiana, and Wisconsin.

Farr Co. has increased its field engineering service for air filters

by adding four new representatives. **Brownlee-Morrow Co.** will serve the Alabama territory; **Earl W. Siebert** will cover northern Florida and southern Georgia; **Robert S. Belcher** will handle central Florida; and **G. H. Avery Co.** will handle Arkansas.

BOOK REVIEW

Title: 1958 Blue Book of Air-conditioning, 66 pages.

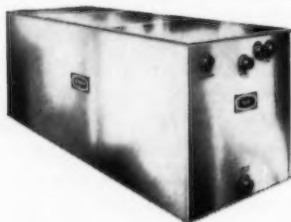
Publisher: National Appliance Trade-In Guide Co., Madison, Wis.

Price: \$5.00.

Principally designed for use in establishing trade-in value of room air-conditioners. Listings supplied by manufacturers give model numbers, list price, trade-in value, size, and capacity of room air-conditioners. Illustrations show representative models for each manufacturer.

Includes Air-Conditioning and Refrigeration Institute cooling load estimate form and instructions for its use; ARI minimum industry standards of performance; ARI suggested standards for advertising and selling room air-conditioners.

LATENT HEAT STORAGE FOR AIR CONDITIONING



- CHURCHES
- THEATRES
- CAFETERIAS
- MORTUARIES
- OFFICES
- LODGE HALLS

- LOW INITIAL INVESTMENT
- ECONOMICAL OPERATION

Ice-Cel UNITS

DOLE REFRIGERATING COMPANY

5942 NORTH PULASKI ROAD, CHICAGO 46, ILLINOIS
103 PARK AVENUE, NEW YORK 17, N. Y.

In Canada: Dole Refrigerating Products Limited, 44 Elgin St., Brantford, Ont.

Write for Engineering Catalog BAE

DEPENDABLE AIR CONDITIONING



Years Ahead in Design

WITH
"KING SIZE" SAVING TODAY . . .
THE LA CROSSE

SENIOR KUBE KING



2864 Sr.



2863 Jr.

Top La Crosse quality in design, economical operation and big Kube capacity! **SAVE . . .** from purchase price through years and years of convenient service with the Senior Kube King.

- Approx. 3200 crystal clean Kubes (no holes) per 24 hours.
- 110 lbs. storage
- 6 qts. water per freezing cycle
- Automatic production start and stop
- No pumps
- No float valves
- Compact — less than 6 sq. ft. of floor space — fits under bar.

Visit Booths D 146-D 148
N. R. Show, May 5-9
Navy Pier, Chicago

LA CROSSE COOLER COMPANY

3002 LOSLEY BOULEVARD SOUTH, LA CROSSE, WISCONSIN



EXPORT OFFICE: 125 BROAD ST., NEW YORK, CABLE: EXIMPORT

Circle No. 73 on Reader Service Card

REFRIGERATION & AIR-CONDITIONING

These Editors Travel So Readers Stay Put



■ If you picture an editor as a character with a green eyeshade and garters on his sleeves, take a look at these fellows. They are the chief editors of IPC's eight magazine groups.

In 1957, these editors made 93 trips . . . visited 762 plants, attended 146 meetings and conventions. They found time to be active in 22 societies and held 14 offices in them. All this in addition to managing their editorial staffs.

By way of qualifications for their jobs, they attended 22 colleges, hold 14 degrees, have 101 years of publishing experience backed up by 63 years spent with 26 firms in other industries.

These figures add up to just one thing: IPC editors are knee-deep in their specialized fields. They have the vitality to go where the story is, the know-how to find it, evaluate it and tell it clearly to specialized audiences.

The result: readership that makes all 10 IPC magazines potent selling forces.

EDITORS

PUBLICATIONS

- | | |
|---------------------------|--|
| 1 Charles P. Berka . . . | Industry & Welding, Welding Illustrated, The Welding Directory |
| 2 Philip R. Kalischer . . | Precision Metal Molding |
| 3 Henry Lefer | Aeronautical Procurement |
| 4 Jim McCallum | Refrigeration & Air-Conditioning Business |
| 5 Paul Reinick | Applied Hydraulics, The Fluid Power Directory |
| 6 Charles A. Hill | Modern Office Procedures |
| 7 J. Arlen Marsh | Occupational Hazards |
| 8 John D. Velardo . . . | Flow, Flow's Material Handling Illustrated, The Flow Directory |



The INDUSTRIAL PUBLISHING Corporation

812 HURON ROAD • CLEVELAND 15, OHIO • SU 1-9622

NEW YORK • CHICAGO • LOS ANGELES • LONDON



Franchise Circulation gets magazines to the men who buy • Distilled Writing gets magazines read



Hold on there! Back up a bit: you just rushed by some pretty important information. Before you pass this copy of Refrigeration & Air-conditioning

Business on to the next reader check it over once more. Did you spot the New Products pages?

How about this month's selection of free data books and catalogs? You'll find both listed on the

Contents page. The handy Reader Service card will bring you details on any of them.

Just fill it out and drop it in the mail.

PENNSALT OFFERS FREE WRENCH



GETTING SOMETHING FOR NOTHING is a rarity these days, but Pennsalt Chemicals Corp. is proving that it's still a good idea in merchandising. An all-purpose wrench designed to handle cylinder and valve connections formerly requiring two separate tools is being given to servicemen and contractors who purchase cylinders of isotrons. The promotion started April 1 and will continue into May. A wrench is attached to every cylinder. Kits, delivered to wholesalers by messenger, contained samples of an Isotron product folder, window streamer, a flyer announcing the free wrench, and a counterstand to which the wrench is attached.

BUY FROM YOUR LOCAL WHOLESALE

To keep systems running at peak efficiency-- **FILTERING** is as important as Drying!

Remove sludge—flux—solder—chips—rust
—carbon and other contaminants

•
Prevent plugged driers — pressure drop —
poor heat transfer—damaged parts—excessive
running—and HERMETIC BURN OUTS

Despite careful installation and servicing, harmful contaminants get into a system—or form during operation. They cause trouble and cost money in callbacks, damaged equipment, expensive cleansing jobs—often, in spoiled merchandise.

For a few dollars, PERMACLEAN Filters can avoid all this. Install them on the suction side of every installation—also on the liquid line, ahead of driers, expansion or solenoid valves and capillary tubes. This will keep refrigerants and oil clean, protect working parts, avoid shutdowns.

Install low-cost, high capacity

PERMACLEAN FILTERS

for permanent Suction and
Liquid line service

Many sizes to meet all needs.

Factory-sealed and replaceable cartridge types.

• Ask your Wholesaler

• Write us for Bulletin G-19



THE MCINTIRE CO. LIVINGSTON 11, N. J.



PERMACLEAN FILTERS

stop particles as small as
5 to 10 microns, or 25
times more effectiveness
than 100 mesh screen.
Provide large filtering
surface area.

"WHEN YOU ORDER ME,
I'M ON MY WAY THE
SAME DAY!"

Here's the end suction pump line that combines performance, efficiency, versatility, convenience and *immediate availability* all in one package — the Peerless REDI-PAK. Comprised of 22 of the most popular size Fluidyne pumps, in sizes from 1 to 15 hp, the individually packaged, factory-fresh pumps are available *right now!* They're versatile, able to handle nearly every general purpose pumping job. They're well designed and soundly constructed. They're a compact pumping unit that fits easily into most all piping layouts. They're easy to maintain, operate indoors or outdoors, on continuous or intermittent duty. Take a profit advantage of the popular Peerless REDI-PAK line of end suction pumps. Write for full information.



Fluidyne. REDI-PAK PUMPS



Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION
Peerless Pump Division

Plants: LOS ANGELES 31, CALIFORNIA and INDIANAPOLIS 8, INDIANA

PEERLESS PUMP DIVISION • FOOD MACHINERY AND CHEMICAL CORPORATION • 2005 Northwestern Ave., Indianapolis, Indiana
Please send me Peerless Pump Bulletin No. B-2319.

NAME _____ POSITION _____
COMPANY _____ ADDRESS _____
CITY _____ ZONE _____ STATE _____

Circle No. 78 on Reader Service Card

ARAC

Handy Tube Bender

Smoothly Bends ANY Pipe or Tubing



• Just a twist of the wrist assures perfect, even bends . . . right-angle, any angle, U and offset—every time. Eliminate need for els. No more guesses—no kinks! Save enough time, labor and money on ONE job to pay for your Handy Bender.

See your supply house—or write for free folder today.

HOLSCLAW BROS., INC.

430 N. WILLOW ROAD—EVANSVILLE, IND.

BALTIMORE AIRCOIL CO. MARKS 20TH YEAR

Baltimore Aircoil Co. recently held an open house in commemoration of its 20th anniversary. The event was held at the company's new plant in Jessup, Md.

Approximately 125 guests were in attendance, and were given an opportunity to tour the plant and inspect production facilities.

TAKES ON TRANE LINE

Dauer Refrigeration Co. has been named to represent Trane Co. in the Boston, Mass., area. Dauer will sell and install packaged air-conditioning equipment in that area.

CENTRAL OFFICE OPENED BY AM. AIR FILTER CO.

American Air Filter Co., Inc., has established a central regional sales office in Detroit. Supervisor is Frank K. Platt, recently named central regional manager for all AAF products.

The central region includes 25 sales offices in 14 cities.

**U.L. & A.S.M.E.
WATER-COOLED
CONDENSERS
1/4 ton to 15 ton, and
LIQUID RECEIVERS
for every
REQUIREMENT!**

Assured, dependable
PERFORMANCE
serves you **BETTER**

Write for our Catalog

STANDARD
REFRIGERATION COMPANY

6034 W. NORTH AVENUE
CHICAGO 39, ILLINOIS



READ THIS: "I have used your Flux-Stik for several years and have found it unsurpassed . . . We had a leak at a silver soldered valve joint. By pulling a deep vacuum on the line and the use of this Flux with 95-5 solder, we were able to close the leak in spite of oil and dirt in the joint. Three previous efforts with other flux had failed. It would have been necessary to pump approximately 6 drums of gas from this system to silver solder the valve."

Florida Service Man

Ask your supplier for LA-CO Flux Stick—or write us for sample. For free help on any flux problems write our Engineering Department.



LAKE CHEMICAL CO.

3082 W. Carroll Ave., Chicago 12, Ill.

Circle No. 79 on Reader Service Card



**GET YOUR
SHARE
OF
BIG
PROFITS!**



COMPLETE LINE

- ✓ Reach-in Refrigerators
- ✓ Combination Refrigerator-Freezers
- ✓ Upright Food Freezers
- ✓ Wall Display Cases
- ✓ Beverage Coolers
- ✓ Walk-in Coolers & Freezers

Request Catalog "J-58"

**IMMEDIATE DELIVERY
FROM FACTORY OR A
WAREHOUSE NEAR YOU!!**

JORDON

COMMERCIAL REFRIGERATOR CO.
2200 KENNEDY STREET, PHILA. 37, PA.

New
1958
CATALOG
AVAILABLE
NOW!

Circle No. 91 on Reader Service Card
REFRIGERATION & AIR-CONDITIONING

You can count on HIGHER PROFITS

WITH

Curtis

AIR CONDITIONERS

HERE'S WHY...

MAXIMUM DEPENDABILITY

Each CURTIS unit is backed by 104 years of engineering and manufacturing experience... one of many reasons why CURTIS air conditioning equipment operates at maximum efficiency with a minimum of maintenance.

CUSTOMER SATISFACTION

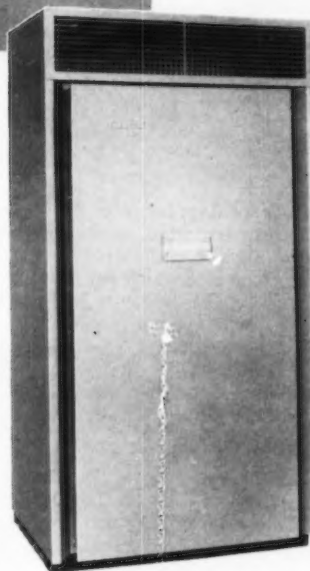
The long operational life and minimum service requirements of CURTIS air conditioning, combined with peak performance, assures satisfied customers.

PRE-SOLD PROSPECTS

National advertising beamed at virtually every prospect category helps *pre-sell* Curtis equipment for you. CURTIS provides sales and promotional aids to make your selling job *easier*.

PRICED FOR PROFITS

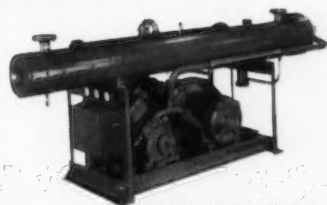
All Curtis air conditioning equipment is *competitively* priced, with a very generous profit margin *for you!*



Packaged
air conditioning
units—
3 through
50 tons.



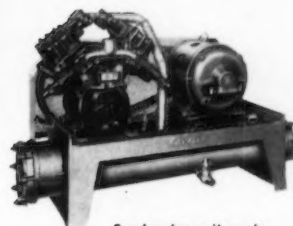
Evaporative Condensers
and Cooling Towers
up to 100 tons
Air handling units to match.



Packaged Liquid Chillers—
7½ to 100 tons—F-12 or F-22.
With room console units to provide
controlled cooling and heating
without duct work.



Packaged Air Cooled Air
Conditioning Units—2
through 7½ tons. Residential
and commercial applications.



Condensing units up to
100 tons—F-12 or F-22.

REMEMBER—
you can count on

Curtis

OUR 104th YEAR
MANUFACTURING COMPANY • REFRIGERATION DIVISION
1915 Kienlen Ave., St. Louis 20, Mo.

C-35

SEAL

the cracks

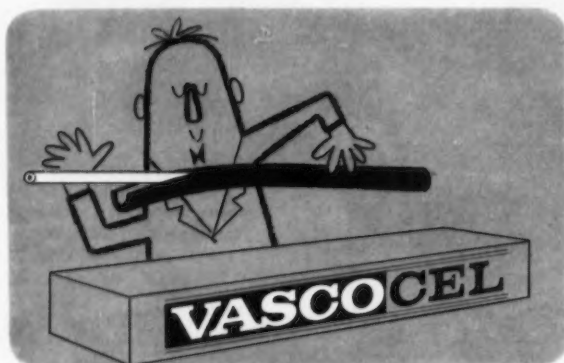
STOP

the drip

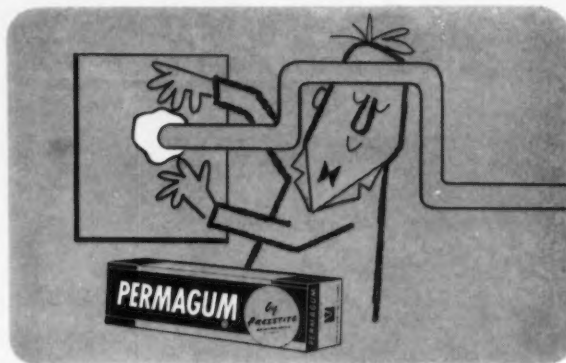
END

condensation

Do it the easy economical way with "VIRGINIA" PRESSTITE INSULATION PRODUCTS



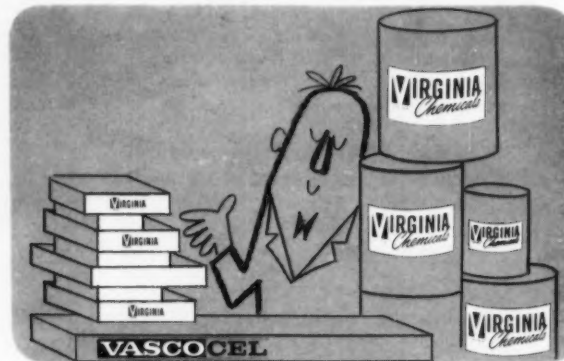
VascoCel Tubing & Pipe Insulation—Stops dripping pipes, gives thermal insulation up to 220° F. Is resistant to fire, acids, oil and fungi. Soft, flexible and durable. Slips on easily over tube or pipe. Can be slit lengthwise to fit on pipe which has already been connected.



Permagum Slugs & Cords—Use slugs for tightly sealing all openings—seams, copper tube, BX and conduit entries—against moisture. Protects insulation. Nonshrinking, will not age harden. Cords are ideally shaped for use around display cases, freezers, coolers, etc.



Presstite Insulation Tape—Stops cold pipe dripping, insulates up to 165° F. Tape roll can be carried about conveniently, applied in a jiffy. Sticks to any dry metal surface, never becomes hard or brittle. Just the thing for quick, on-the-spot insulation.



"Virginia" Presstite Insulation Products—One segment of a complete, dependable line of products for the refrigeration industry. Ask your nearest "Virginia" wholesaler about them—or write Refrigeration Division, VIRGINIA SMELTING COMPANY, 201 Jefferson St., West Norfolk, Va.

ESOTOOL • V-METH-L • CAN-O-GAS • VASCOCEL • PERMAGUM • PRESSTITE TAPE • SUNISO REFRIGERATION OILS
WATER TREATMENT CHEMICALS • SALES AGENT AND REPACKER FOR DUPONT'S "FREON" REFRIGERANTS

Available in Canada and many other countries



APPLICATIONS *Manual*

SMOG — a growing problem for today's air-conditioning engineers

THE TERM "SMOG" has found its way into our everyday vocabulary in recent years, yet few people fully understand what the term means.

Smog is a contraction of the words "smoke" and "fog", but this falls far short of being an adequate description of the problem. Air-conditioning experts are being called upon to help provide comfort air conditions in smog-affected areas, so a review of some recent findings should help you understand the problem of air contamination.

Smog is a combination of all gasses and aerosols emitted into the atmosphere. Almost all of the foreign substances put into the atmosphere by activities of man combine in effect to make smog.

Gases considered as air pollutants are those which are not part of the normal atmosphere. The most important are sulphur dioxide, nitrogen oxide and hydrocarbons.

Organic Solvents Are Biggest Source of Trouble

Carbon compounds, such as gasoline vapors and organic solvents used in the painting, drycleaning and printing fields, are particularly troublesome. Although invisible and relatively harmless when they enter the air, they may react with natural ozone and nitrogen oxides in the presence of sunlight to form a substance that irritates eyes, damages vegetation, and reduces visibility.

Sulphur dioxide, which is also invisible when it enters the atmosphere, reacts to form sulphur trioxide and sulphuric acid mist which are aerosols that reduce visibility.

The use of solvents is so extensive that it is difficult to single out a manufactured article made without their consumption.

Aerosols, which are the other major air contaminant, are minute particles of matter, liquid or solid, so small that they can remain suspended in the air almost indefinitely. Aerosols include dusts, smoke, mists and fumes. They are important in smog because they diffuse light and thereby reduce visibility.

Temperature Inversions Intensify Smog Problem

Generally speaking, just the right set of atmospheric conditions must prevail before a severe smog condition can exist.

London, England, has had several killing smogs in recent years. These smog masses were created by dense fog plus heavy concentrations of industrial contaminants and aerosols from residential coal fired heating devices.

Much has been written about the conditions existing at Donora, Pa., when the killing smog developed and brought this type of hazard to the attention of the American public. Approximately the same conditions exist in Los Angeles, where temperature inversions produce an eye-irritating smog on about 120 days of the year.

Temperature inversions occur generally where an industrial area is located in a valley or basin. A layer of warm compressed air forms an invisible ceiling over the basin, and the cooler polluted air cannot rise up through the hot inversion layer to dissipate into the upper atmosphere.

trim new
member of the
**QUALITY
LINE**



the all new
hot & cold
**Temprite
Cadet**

The most beautiful Temprite quality line . . . trim, sleek and slender . . . complete with 24 basic models . . . is now sparked with a bright new exclusive in the Temprite Cadet series . . . Hot & Cold model BH-2S. Measurements: 12" square, 36" high. Weight: 84 pounds. Price: Very realistic.

Temprite Products Corp.,
P. O. Box 728, Birmingham, Mich.

☐ Send me details on the Hot & Cold Cadet.
☐ I am interested in the sale of Temprite Coolers.

Company Name _____

My Name _____

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City _____ Zone _____ State _____

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BEST!**

**FOR ALL
MAKES
OF ICE
MACHINES**

VAPCO

ICE MACHINE CLEANER

The ORIGINAL LIQUID Ice Machine Cleaner. Works fast yet safely. Produces FRESH SMELLING flakes and cubes.

No danger from toxic residues because it's FOOD GRADE. Simple and safe to use with ANY machine.

1. Goes into solution quickly — even in COLD water.
2. No undissolved crystals left.
3. Removes more scale per ounce of cleaner.
4. Easy to use.

8 fl. oz. bottles and 200 lb. Drums



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phere. If the winds in the area are weak and variable, they fail to move the pollution out from under the inversion. Smog results.

Extensive research by the Air Pollution Control District of Los Angeles and other agencies has revealed the character of smog, its major sources, and its effects. Smoke abatement ordinances have greatly reduced the air contaminants added to the atmosphere by industry, but a solution must still be worked out for the problem of organic solvents.

Solvent recovery systems have been developed in many industries because of the high cost of the solvent used. Where the solvent cost is low, and the cost of recovery high, solvent has been permitted to evaporate without restriction.

The stumbling block to passing a law ordering a standard of solvent recovery is the fact that instruments have not yet been developed to measure the hydrocarbon air pollutants. If the law prescribes a standard of efficiency, there must be a way to measure adherence to the standard.

One method of control which has been successful recovers solvent by passing the vapor through activated charcoal banks. As a result of this finding, the sale of activated charcoal filters for air-conditioners has been booming in smog affected areas.

NEW COMPANY TO MAKE WATER COOLING TOWERS

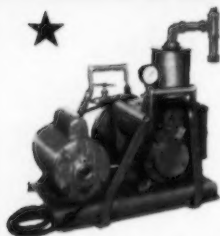
Water cooling towers for use with commercial and industrial air-conditioning systems are now being produced by Mason Products, Inc., West Concord, Mass. The company plans to produce towers ranging in capacities from 8 to 75 tons. It will maintain offices at 317A Main St., West Concord.

Paul H. Mason, who will head the new company was formerly sales manager for Phillips Cooling Tower Co. He stated that there has been a need for an east coast manufacturer of cooling towers in the lower capacity range specifically designed to meet climatic conditions presented in that area.

PRESENTING AIRSERCO'S GALAXY OF STARS

A stage full of star performers in the refrigerant handling and precision measuring equipment line:

- ★ portable service stations
- ★ automotive charging units
- ★ precision charging tubes
- ★ portable evacuators
- ★ Kinney vacuum pumps
- ★ manometers
- ★ vacuum leak detectors
- ★ refrigerant stands
- ★ electric unit analyzers
- ★ automatic compressor analyzers



★ KC-8R PORTABLE HIGH VACUUM PUMP



★ ELECTRIC ANALYZER



★ FREON CHARGING PANEL



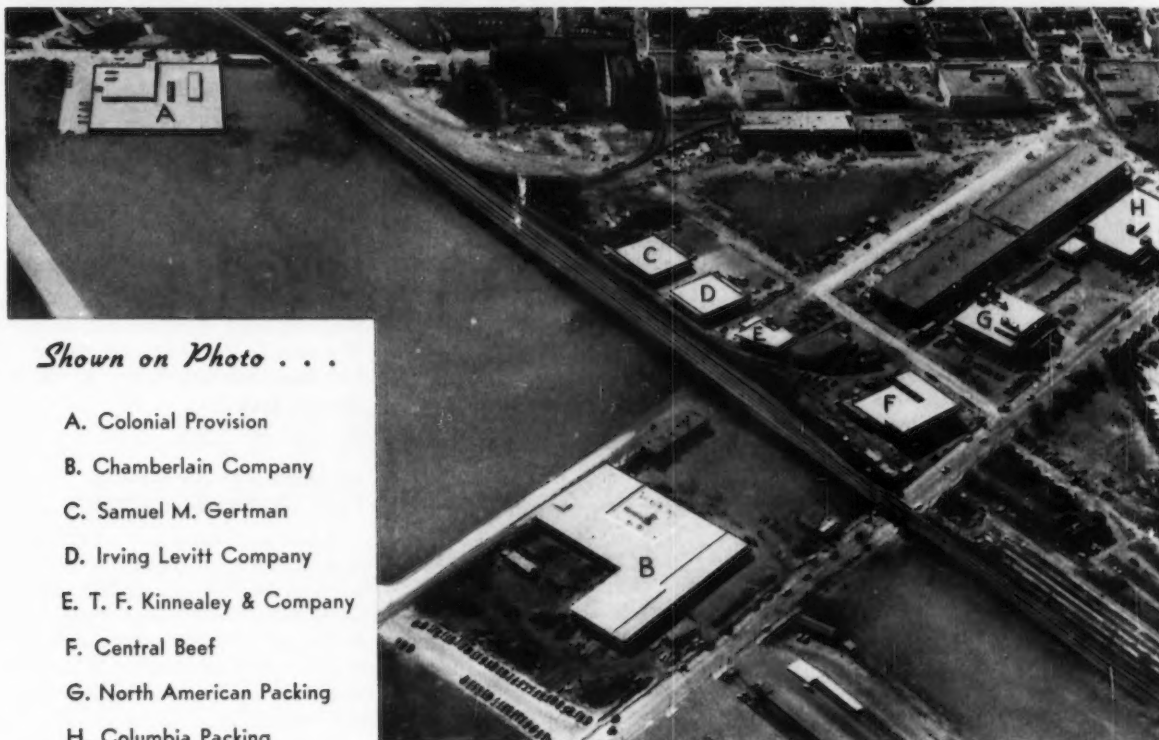
★ AUTOMOTIVE CHARGING UNIT



AIRSERCO MANUFACTURING CO., INC. PITTSBURGH 13, PENNSYLVANIA, U.S.A.

Airserco has built more refrigeration testing equipment than any other company in the world.

BOSTON Prefers Frick Refrigeration



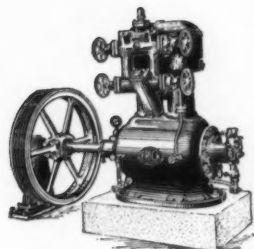
Shown on Photo . . .

- A. Colonial Provision
- B. Chamberlain Company
- C. Samuel M. Gertman
- D. Irving Levitt Company
- E. T. F. Kinnealey & Company
- F. Central Beef
- G. North American Packing
- H. Columbia Packing

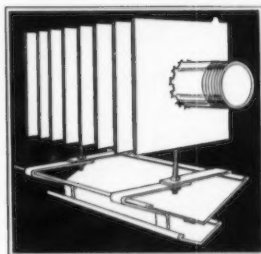
Photo courtesy of New Haven Railroad

Eight of the new meat processing plants in Boston's South Market Terminal are already Frick-equipped. This new Terminal is the most modern wholesale meat and produce market in America and includes the latest developments in processing and machinery.

Frick-engineered systems—known throughout the world for over 75 years—can answer all of your refrigeration problems. Write for information on your particular requirement or the name of your nearest Branch Office or Distributor (no obligation for estimates).

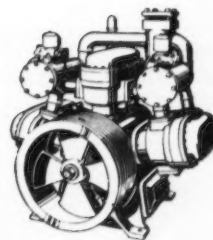


HEAVY-DUTY COMPRESSORS



PRESTFIN PIPE COILS

DEPENDABLE REFRIGERATION SINCE 1882
FRICK CO.
 WAYNESBORO, PENNA., U. S. A.



"ECLIPSE" COMPRESSORS

TRANE COOLER USED IN NUCLEAR REACTOR



MORE THAN 12,000 gallons of cooling water are provided every minute by gigantic heat exchanger to new nuclear research reactor at Oak Ridge National Laboratory, Oak Ridge, Tenn. Enough heat is removed every hour by this "monster" Trane fluid cooler to heat 900 homes. The hot water from the reactor is pumped through aluminum coils in the heat exchanger and is cooled down by a blast of cooling air provided by eight 16' propeller fans.

RUBATEX DIV. NAMES PHILADELPHIA OUTLET

Rubatex Div. of Great American Industries, Inc., has appointed Stockwell Rubber Co., Philadelphia, as a distributor.

Stockwell will warehouse and distribute closed cellular rubber, closed cellular vinyl, insulation hardboard, and various other materials produced by the Rubatex organization.

RECOLD PRODUCTS TO BE MADE IN MEXICO

Recold Corp., announces that its complete line of refrigeration and air-conditioning equipment will be manufactured in Monterrey, Mexico by Recold de Mexico, S.A., a newly formed corporation.

Plans are being developed for a new factory which will fabricate refrigeration and air-conditioning units for the entire Latin-American market.

SCHOLARSHIP OFFERS CONTINUED BY TRANE

For the second consecutive year Trane Co. is offering eight, two-year pre-engineering scholarships to high school senior boys in the LaCrosse, Wis., area.

The scholarship program, initiated in 1957, is to encourage

young men to elect engineering technician careers, with subsequent employment at Trane.

The program is in cooperation with LaCrosse State College. Upon completion of the course, students may be offered positions at Trane as engineering technicians. Those who wish to continue their schooling toward an engineering degree may do so and will receive credit for subjects during their pre-engineering scholarship.

SCATENA YORK CO. MOVES INTO NEW QUARTERS

Scatena York Co., York distributor in northern California, has recently moved into a combination warehouse and office at 225 Industrial St., San Francisco. The new location will provide 12,000 sq.ft. of floor space, of which about 3,000 sq.ft. will be used as offices and display rooms.

HEADS RANCO EXPORTS

Appointment of Walter W. Birge as head of export activities of Ranco Inc., and its subsidiaries has been announced by A. M. Hoover, president.

READING TUBE OPENS PHILADELPHIA OFFICE

A new sales office and a 12,000-sq.ft. distribution depot has been put into operation in Philadelphia by Reading Tube Corp. Purpose of the new depot is to provide wholesalers faster delivery than is possible from the company's plant at Reading, Pa.

Served by the new facilities will be an area extending from the southern boundary of New York State to the southern boundary of Virginia. It is the tenth such depot operated by this company.

NEW TYPE AIR-CONDITIONER DEMONSTRATED



AIR-CONDITIONER POWERED BY NATURAL GAS and operating on the "free piston" principle is demonstrated at Battelle Memorial Institute for representatives of 45 refrigeration equipment manufacturers. The 3-ton residential air-conditioning unit is the result of a research and development program being sponsored at Battelle by American Gas Association.

if cooling
is your
business



YOU CAN DEPEND ON
MYERS
centri-thrift pumps

designed especially for air conditioning and
refrigeration cooling towers, booster service
and coolant pumping in bulk milk coolers

Ruggedly built for continuous duty, the general
duty Myers Centri-Thrift features an all bronze
impeller, removable wearing ring, and stainless
steel shaft. The line offers a full range of sizes:
from 1" x 1 1/4" through 2" x 2 1/2" and from 1/3 to
7 1/2 horsepower. Capacities to 240 GPM, heads
to 140 feet.



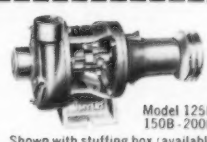
Model 150 M 200 M
Shown with rotary seal (avail-
able with stuffing box)



Model 125 M 150 M
Shown with stuffing box (available
with rotary seal)



Model 100 M—Rotary seal only



Model 125B 150B-200B
Shown with stuffing box (available
with rotary seal)



Model 100B
Rotary Seal
only

Write today for
Catalog Section
210 covering the
complete Myers
Centri-Thrift line.



Myers® PUMPS

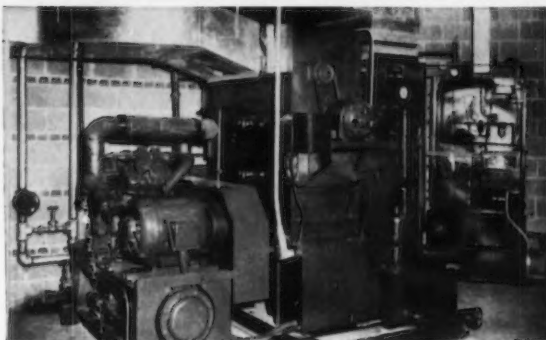
THE F. E. MYERS & BRO. CO.
9405 Orange St., Ashland, Ohio • Kitchener, Canada



Circle No. 88 on Reader Service Card

BUSINESS • MAY 1958

DRY AIR...
PRECISELY as you want it



**NIAGARA CONTROLLED HUMIDITY
AIR CONDITIONING**

This method removes moisture from air by contact
with a liquid in a small spray chamber. The liquid
spray contact temperature and the absorbent concen-
tration, factors that are easily and positively controlled,
determine exactly the amount of moisture remaining
in the leaving air. Heating or cooling is done as a
separate function.

**The Niagara's Controlled Humidity Method using
HYGROL moisture-absorbent liquid is**

Best and most effective because . . . it removes moisture as a
separate function from cooling or heating and so gives a
precise result constantly and always. Niagara machines using
liquid contact means of drying air have given over 20 years
of service.

Most reliable because . . . the absorbent is continuously recon-
centrated automatically. No moisture-sensitive instruments are
required to control your conditions.

Most flexible because . . . you can obtain any condition at will
and hold it as long as you wish in either continuous produc-
tion, testing or storage.

Easiest to take care of because . . . the apparatus is simple,
parts are accessible, controls are trustworthy.

Most compact, taking less space for installation.

Inexpensive to operate because . . . no re-heat is needed to
obtain the relative humidity you wish in normal temperature
ranges and frequently no refrigeration is used to remove
moisture.

The cleanest because . . . no solids, salts or solutions of solids
are used and there are no corrosive or reactive substances.

*Write for full information; ask for Bulletins
112 and 121. Address Dept. C.R.-5*

NIAGARA BLOWER COMPANY
405 Lexington Ave., New York 17, N. Y.

District Engineers in Principal Cities of U.S. and Canada

Circle No. 89 on Reader Service Card



**"Styrofoam helped us build a first-class cold storage area
that costs less to maintain"—Drew Fruit Farms**

"In my newest cold storage warehouse for apples, I felt Styrofoam® would provide a long lasting, completely satisfactory unit," says Mr. Ben Drew, owner of Drew Fruit Farms, Westford, Mass. . . . "one that would cost less to erect and less to maintain. After three seasons, my experience with Styrofoam has been favorable in all these respects.

"As it does not absorb moisture, Styrofoam does not require a vapor barrier. This saved us the expense of putting a moisture-proof material around the outside of the insulation. In spite of the wide range of outside temperatures, Styrofoam

maintains the proper storage temperature of 31°-32° F. without undue strain on our refrigeration equipment.

"In my operation, Styrofoam has proven itself as an insulation material for apple storage."

This example is typical of the lasting satisfaction your customers find when you insulate their low temperature rooms with Styrofoam* (a Dow plastic foam).

For further information write to THE DOW CHEMICAL COMPANY, Midland, Mich., Dept. 1906D.

*STYROFOAM is a registered trademark of The Dow Chemical Company

YOU CAN DEPEND ON

DOW

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REFRIGERATION & AIR-CONDITIONING



Unyielding water resistance— **STYROFOAM®** for pipe covering insulation

Low-temperature pipe covering made of Styrofoam® does an excellent job and lasts a lifetime. Its unyielding resistance to moisture and its permanent low thermal conductivity prevent condensation and dripping—reduce heat transfer.

Styrofoam will not crack or split from changing temperature and it is not subject to ice buildup around valves. It's lightweight and easy to apply—requires no maintenance. A complete line of pipe and vessel covering made from Styrofoam is available from a number of fabricators. For their names and more information, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Department 1916N.

*STYROFOAM is a registered trademark of The Dow Chemical Company



Circle No. 90 on Reader Service Card
BUSINESS • MAY 1958

Calendar of Industry Events

May 4-7, 1958

Air-Conditioning and Refrigeration Institute (Board Meeting and Annual Meeting)
The Homestead
Hot Springs, Va.

May 5-9, 1958

National Restaurant Association (Convention and Exposition)
Navy Pier
Chicago, Ill.

May 7-11, 1958

Western Air Conditioning Industries Association
Shrine Exposition Hall
Los Angeles, Calif.

June 9-13, 1958

Oil-Heat Institute of America (Convention and Exposition)
New York, N. Y.

June 23-25, 1958

American Society of Heating and Air-Conditioning Engineers
American Society of Refrigerating Engineers (Joint Meeting)
Leamington Hotel
Minneapolis, Minn.

October 12-17, 1958

American Gas Association (Annual Convention)
Atlantic City, N. J.

October 22-24, 1958

Air-Conditioning and Refrigeration Wholesalers (Annual Meeting)
Sheraton-Palace Hotel
San Francisco, Calif.

December 1-3, 1958

American Society of Refrigerating Engineers (Semiannual Meeting)
Hotel Roosevelt
New Orleans, La.

December 1-4, 1958

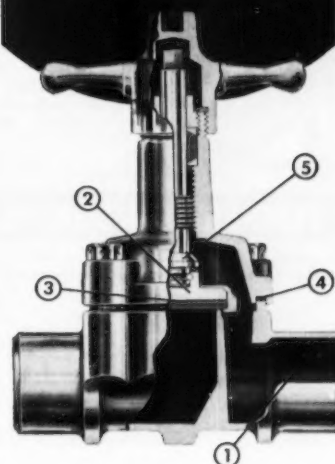
National Warm Air Heating and Air Conditioning Association (Committee Meetings and Annual Convention)
Cleveland, Ohio

January 26-30, 1959

American Society of Heating and Air-Conditioning Engineers (Annual Meeting and Exposition)
Philadelphia, Pa.

- **FULL FLOW**
- * **SELF ADJUSTING**
- **POSITIVE SHUT-OFF**
- * **LEAK-LOK BONNET SEAL**
- **REPACKS IN USE**
- * **TEMPERATURE PROOF**

KEROTEST PACKED GLOBE VALVES



"Packed" with quality and of rugged brass construction, these valves are ideal for refrigeration and air conditioning systems, oxygen (degassed), nitrogen, compressed air and liquified petroleum gases. Features: 1. Designed for full flow. 2. Floating disc for self-adjustment. 3. Quick seating disc for ease of operation. 4. Leak-proof with exclusive gasketing. 5. Repacks under pressure with positive back seating. Maximum operating pressure 500 p.s.i.—maximum temperature 200° F. See your Kerotest wholesaler.

R12 Series 1/2"-2 1/4" Forged Brass

R10 Series 2 1/4"-4 1/4" Cast Brass



KEROTEST MANUFACTURING CO.
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AUTO-LITE



Temperature Indicators for REMOTE READING

Model F-1 temperature indicators are widely used in the chemical and food industries to cut waste and help preserve quality standards in processing and storage. Ideal for installation on any equipment, where accurate temperature is desired.

Solid liquid-filled movement... Large, easy-to-read dial... Equipped with 3-way adjustable bracket... Flexible tubing for remote reading or rigid stem for direct mounting... Wide choice of standard temperature ranges, from minus 60°F to plus 750°F. From \$23.50.

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INDUSTRIAL INSTRUMENT DIVISION
TOLEDO 1, OHIO
NEW YORK • CHICAGO • SARNIA, ONT.

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TEMPERATURE INDICATORS AND RECORDERS

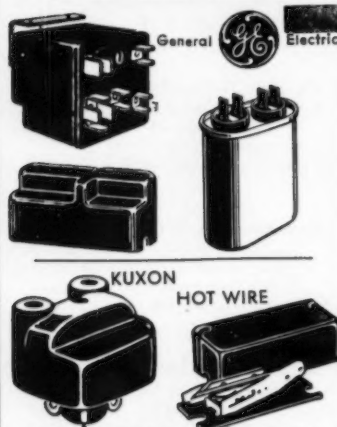
HELP WANTED?

I'm an expert with years of world wide experience. In fact, wherever refrigerators, freezers or air conditioners are repaired by smart businessmen, you'll find me. My name is Frankell's Hermetic Compressor Opener. I can open any shape compressor (up to 20" in dia.) regardless of the weld. And best of all, I take only two minutes of your time to do it! Or any one's time for that matter — I'm that easy to operate — No Gimicks! No Fixtures! No Jigs! Remember, when you open and repair a hermetic compressor, the profits are big. And just one hermetic job a week and I'm paid for in full. I'm recommended by the world's leading firms. These are just a few of my references: American Motors Corp., Kelvinator Div., Detroit, Mich.; Siemens, Erlanger, West Germany; Sealed Unit Parts, N.Y.C.; Tecmar-Carrier, Mariacaibo, Venezuela; Jones Refrigerator Co., Raleigh, No. Carolina, and many more. I cost only \$695 net F.O.B. N.Y. or I can be rented monthly for an amazingly low cost. Write for complete information today. Write Dept. G Frankell Manufacturing Co., Inc., 1074 Home St., N.Y. 59, N.Y.

Export Facilities

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122

Refrigeration and Air Conditioning RELAYS and OIL CAPACITORS



REQUEST OUR CATALOG SHEETS
Your Relay Source...
SAM HAMMER INC.
698 WASHINGTON AVENUE
BROOKLYN 38, NEW YORK
Sold Only Thru Jobbers

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Dealer-Distributor APPOINTMENTS

Drayer-Hanson, Div. of National-U.S. Radiator Corp., has announced its first sales distribution outlet in Africa.

The foreign distributor organization, *Aero Flo P.T.Y., Ltd.*, Johannesburg, Africa, has been named to handle all Drayer-Hanson African transactions by Climate Control International, Inc., international distributor, who represents the manufacturer abroad.

Trane Co. has appointed *F. H. McDonald, Inc.*, Miami, Fla., to sell and install the company's line of packaged air conditioning equipment in the Miami area.

Valley Refrigeration Supply Co., San Bernardino, Calif. has been named to represent **L.O.F. Glass Fibers Co.** The new appointment includes handling that company's insulation products in the counties of San Bernardino and Riverside.

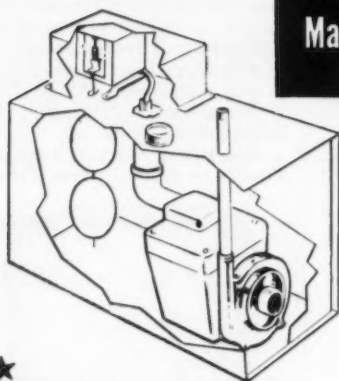
Five firms in the Cincinnati, Ohio area have been appointed to sell and install packaged air-conditioning equipment for **Trane Co.** The five include: *Prefection Heating Corp.*, *J. F. Rickard Plumbing & Heating Co.*, *Wells & Sons Co.*, and *Rahco Refrigeration Co.*, all of Cincinnati, and *Tri-City Heating & Air Conditioning Co.*, Inc., Newport, Ky.

Mussun Equipment Co., Cleveland, Ohio has been named to represent **Buensod-Stacey, Inc.** It will handle dual-duct air mixing equipment for that company in Cleveland and surrounding areas.

Wm. B. Wickersham & Co., West Newton, Mass., has been appointed sales representative for **J. F. Pritchard & Co. of California** in Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

REFRIGERATION & AIR-CONDITIONING

Little Giant



for
the
AIR-
CONDITIONING
Market

★
CONDENSATE UNIT
For Refrigerated Units!

- Hermetically sealed Little Giant Recirculating Pump for trouble-free self-lubricating operation.
- Positive displacement switch with float control, double pole switch for complete circuit break plus a three-conductor cord available.
- Sturdy metal tank corrosion resistant.
- Small and Compact.
- Quiet in operation.
- Completely automatic.

PUMPS FOR ANY AIR CONDITIONING APPLICATION

★
**ALL NEW SHALLOW
PAN CONDENSATE**

Smaller, even more compact! The automatic shallow pan unit is designed specifically for ceiling mounted units and other refrigerated air conditioners where minimum height and space is important. For added adaptability, these condensate removers are available with either a vertical or horizontal outlet connection.



Write for free catalog and price list today!

Little Giant PUMP COMPANY
Division of Little Giant Vaporizer Company, Inc.
5101 Classen Blvd., Oklahoma City 18, Okla.



Plastic Coating Stops Costly Condensation Drip and Rust

THE COSTLY PROBLEM caused by dripping from this sweating pipe was permanently solved with one easy and inexpensive application of NoDrip Plastic Coating. Sweating pipes, ceilings, air ducts and other metal equipment are also completely protected against rust and corrosion by low cost NoDrip.

NoDrip Plastic Coating acts immediately to insulate and protect. One application adds many years of service life to metal equipment. NoDrip is also resistant to acid, alkali and brine...protects concrete, brick, plaster, tile wood or composition surfaces.

Easy application requires no special equipment or skill. Anyone can apply NoDrip with brush, trowel or spray. Stop your condensation problem now! Get full details without delay.

JW **Mortell**
COMPANY



FREE

32-PAGE NoDrip DATA HANDBOOK
Complete with photographs, charts and technical information to solve your condensation problem. Write today.

Available at leading refrigeration supply houses

J. W. MORTELL Co., 553 Burch St., Kankakee, Ill.

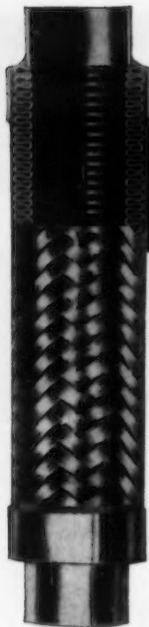
Please send my FREE copy of the NoDrip Data Handbook.

Name _____

Company _____ Title _____

City _____ Zone _____ State _____

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**PREVENT THE LOSS
OF COSTLY REFRIGERANTS**

... use leaktight
FLEXON VIBRA-SORBERS®

Flexon Vibra-Sorbers are economical insurance against the failure of rigid compressor piping due to vibration ... and the resultant loss of costly refrigerants.

Vibra-Sorbers are all metal construction, extremely resistant to corrosion and fatigue, remaining leaktight throughout their long life.

Genuine Flexon Vibra-Sorbers are U.L. listed in sizes $\frac{3}{16}$ " through $1\frac{3}{4}$ " for both high and low side service. Larger diameters to 8" available. Write for Bulletin 139.

NOW AVAILABLE FROM FLEXONICS

Flex-O-Tube synthetic Freon-resistant hose for refrigeration and air conditioning service. Also, flexible metal connectors for circulating pumps. Write for information.



Flexonics Corporation
1321 S. Third Avenue
Maywood, Illinois

Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

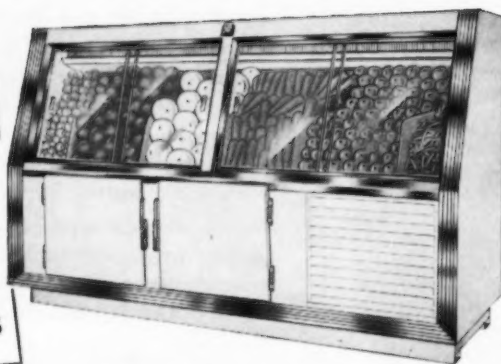
V-25

Designed for a variety of products

Use as a
**COMBINATION
VEGETABLE
and
DAIRY CASE**

Use for
**ALL
DAIRY PRODUCTS**

Use it for
**BEVERAGES
and
DAIRY PRODUCTS**



FRIGID IGLOO
All-Purpose, Refrigerated
**VEGETABLE
and FRUIT CASE**

Sell large quantities of produce through mass display. A mass assortment of products all kept at the proper temperature to stay crisp and fresh until sold. New streamlined design—easy shopping features make our all-purpose display case first choice of retailers everywhere. Send for illustrated literature and facts.

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Yonkers 5-8891

Yonkers 2, N.Y.

Circle No. 98 on Reader Service Card

NEW PRODUCTS

Continued from page 98

more capacity. Sliding door displays salads and desserts, and eliminates congestion. Available in 45, 70, and 90-cu.ft. capacities.

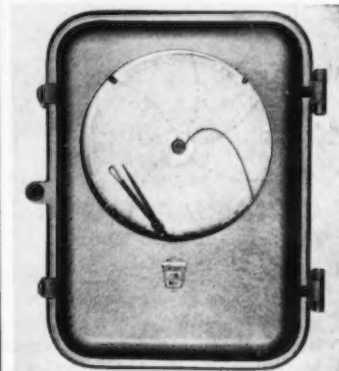
Circle No. 192 on Reader Service Card

Recording Thermometer

Product: Load temperature recording thermometer (Model TRW).

Manufacturer: Partlow Corp., New Hartford, N. Y.

Features: Mercury-actuated, requires no external power. Provides



automatic recording of load temperatures in all weather. Mechanism is housed in weatherproof, cast aluminum case. Spring driven clock drives with 8-day winds are available in 24-, 48-hour and 7-day charts.

Circle No. 193 on Reader Service Card

Booster Pump

Product: "Enpo" booster pump.

Manufacturer: Piqua Machine & Mfg. Co., Piqua, Ohio.

Features: Can be used for either horizontal or vertical installa-



tion. Mounted in rubber to eliminate motor noise. Overload protective device prevents burnouts. Circulating lubrication system constantly oils bearings. Available in standard iron body or all-bronze.

Circle No. 194 on Reader Service Card

REFRIGERATION & AIR-CONDITIONING

HUGE AIR TERMINAL USES BOILERS TO POWER CONDITIONING SYSTEM

Babcock & Wilcox Co., has announced that its boilers are supplying the power for the air conditioning systems, at Dallas' new, \$7.5-million Love Field Terminal.

Situated 5½ miles from the center of downtown Dallas, the new terminal is said to be the largest and most modern in the southwest.

With a lobby measuring 27,750 sq.ft., plus three floors of office space and four floors for control tower functions, it is more than six



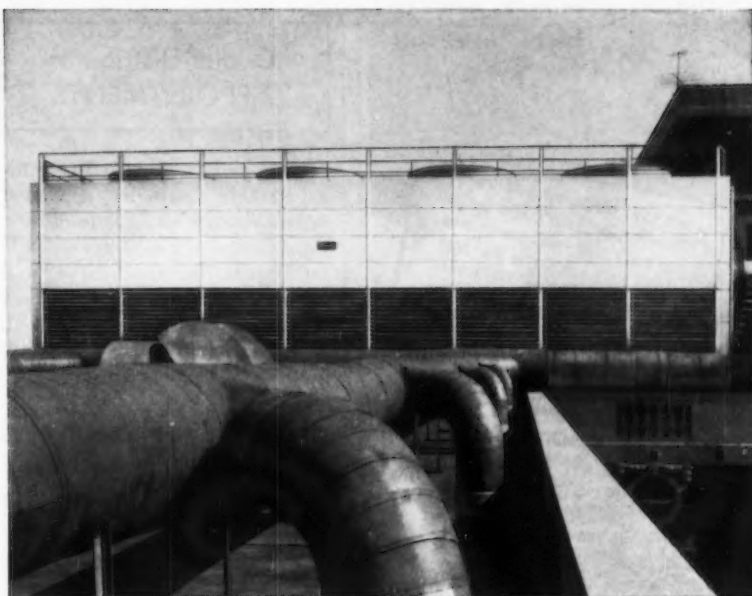
times larger than its predecessor.

A heating and ventilating system affords complete air conditioning from the front door to the fingers of the passenger loading area.

Two boilers, located in the equipment building near the east loading ramp, supply a combined total of 30,000 lbs. of steam hourly to the system at a pressure of 235 psi.

Fired by natural gas, with oil as a stand-by fuel, each unit is expected to consume approximately 20,000 cu.ft. of gas per hour at full rating.

During the summer, when the units will carry their heaviest load, the steam will be used to drive two 600-ton turbines. These, in turn, will power the refrigeration machinery which will furnish the actual cooling. In the winter, the steam will heat the terminal.



This Binks cooling tower, atop the Palmer House, is the heart of a newly augmented air conditioning system for 1735 guest rooms, dining and shopping facilities.

at the Palmer House in Chicago...

air conditioning water costs cut 96% by Binks cooling tower

"Our Binks cooling tower has done a great job for us," reports Chief Engineer John F. Edelhofer of the Palmer House Hotel. "Since June of 1956 our records show air conditioning water costs are only 4% of what they would have been under our old 'one-pass' system. In terms of volume, we are saving almost 7700 gallons per minute of operation. The tower should pay for itself in five years."

Cooling tower features

This tower is one of Binks 2-K vertical induced draft series. It cools and recirculates 8000 gallons per minute. Water enters at 95°F and leaves at 85°F. Four 12' diameter aluminum alloy fans assure scientifically balanced air-to-water ratio for high cooling efficiency under all

climatic conditions. All panels and framework in the 72' by 42' tower are heavily galvanized and coated to insure minimum maintenance.

A complete line

Whether it is for air conditioning or the cooling of manufacturing process fluids, there is a Binks cooling tower of the correct capacity and type for every job.

Send for complete data

Ask your Binks branch office for a copy of Bulletin 333 and Bulletin 477-A or write direct to the address below. Binks engineers will be glad to answer your questions and help you solve your cooling problems. There's no obligation.



7159



A COMPLETE LINE OF NATURAL DRAFT AND MECHANICAL DRAFT COOLING TOWERS AND INDUSTRIAL SPRAY NOZZLES

Binks Manufacturing Company

3134-38 Carroll Ave., Chicago 12, Ill.

REPRESENTATIVES IN PRINCIPAL U.S. & CANADIAN CITIES • SEE YOUR CLASSIFIED



DIRECTORY

Circle No. 4 on Reader Service Card

DON'T LOSE ANOTHER SALE!

Lost sales mean lost profits . . . unnecessarily. As a Coldin Dealer you can't miss—you are assured of the right cabinet in the right size at the right time. This makes sense . . . and makes money for you too!

Coldin manufactures quality refrigerators for every type of food handler—retailers, hotels, restaurants, schools, clubs, etc. You can tackle any segment of the entire field successfully as a Coldin franchised dealer. Investigate! Write for full details and catalog today.



COLDIN
CABINET CO., Inc.

2800 Webster Ave., N. Y. 58, N. Y.

Dealer-Distributor APPOINTMENTS

Nitrogen Div., Allied Chemical & Dye Corp. has appointed three branches of *Thompson-Hayward Chemical Co.* to handle sales for Barrett Brand anhydrous ammonia in cylinders. Sales offices and stock will be maintained in Little Rock, Ark.; Kansas City, Mo.; Lubbock, Tex.

Valcour Chemical Co., Burlington, Vt., has been appointed by **Nitrogen Div., Allied Chemical & Dye Corp.**, to handle sales of Barrett anhydrous ammonia in cylinders in Vermont and adjacent New York counties.

Thomas W. Carol, Inc. has been appointed by **Nitrogen Div., Allied Chemical & Dye Corp.** to handle sales for Barrett Brand anhydrous ammonia in cylinders in Charleston, S.C.

Lumpkin & Kirby Associates, Columbia, S. C. has been appointed sales representatives for **Lehigh Mfg. Co.** It will handle Lehigh products in Florida, Alabama, Georgia, South Carolina, North Carolina and Tennessee.

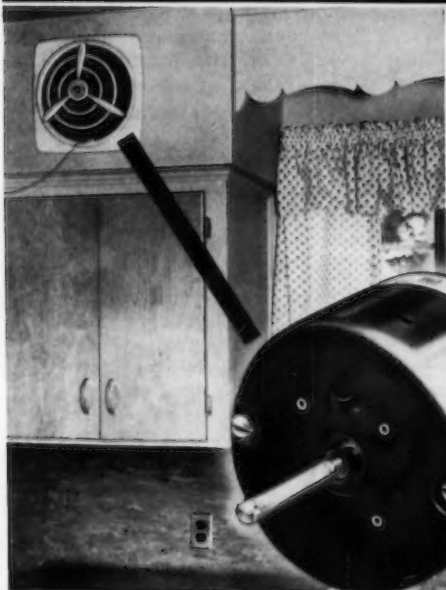
Trane Co. has appointed *Air Conditioning Associates of New England*, Somerville, Mass., as an authorized source for Trane package air-conditioning equipment. It will sell and install packaged air-conditioning equipment in the Somerville area.

American Potash & Chemical Corp. has named **Roy B. McCrady** as distributor for the company's refrigerant products in Missouri and southern Illinois.

McCrady, who will headquarter in Prairie Village, Kan., will distribute the complete American Potash refrigerant chemicals line.

**BUY FROM YOUR
REFRIGERATION WHOLESALE**

NEW MOTOR GIVES YOU NEW SALES OPPORTUNITIES



Totally Enclosed *Redmond* TL-270 for Kitchen Ventilator Replacement Market

Now you stock only one motor to cash in on the profitable replacement market for kitchen ventilator and range hood motors.

An outstanding feature of this fine motor is the **TOTALLY ENCLOSED** case design that prevents dirt from passing into the windings.

Treat yourself to a new source of profits by ordering the type TL-270 from your Redmond distributor now.



TRANE ENTERS MARKET FOR HOME COOLING

Trane Co. plans to enter the residential air-conditioning field with heating and cooling units which will be produced by mid-summer at a new plant in Nashville, Tenn.

The company has launched an extensive sales campaign to line up dealers and heating and air-condi-

nizes that while the residential market is relatively untapped, homeowners generally are apathetic to the idea of air conditioning. In view of these facts and the competitive situation that exists, Minard, points out, the company will consider the introduction of the new line a success if Trane can get only 1 or 2% of the market at the beginning.

A COMPILATION of data sheets on home heating, air-conditioning, and piping have been published by Lefax. The three pocket-size books present a wide range of pertinent engineering data including many tables, graphs, and specifications.

Each of the three is available at \$1.25 from Lefax, Sheridan Bldg., Philadelphia 7, Pa. When ordering specify booklet number; Home Heating, 610; Air Conditioning, 638; Piping, 653.

tioning contractors. The firm expects to have about 500 outlets about the time production is ready, and about 1,000 outlets by 1961.

According to D.C. Minard, Trane's president, the firm recog-

STARTS PRODUCTION IN NEW TORONTO PLANT

Trion Ltd., a subsidiary of Trion, Inc., has begun full manufacturing operations in its new Toronto, Ontario, factory, and is now marketing Trion electronic air cleaning units throughout Canada.

The subsidiary is manufacturing the full range of industrial, commercial, and residential electronic air cleaners. Sales representatives are located in all major Canadian cities.

It's operations are under the direction of Dr. Frederick Ritter, vice president.

Circle No. 102 on Reader Service Card

**Removes MORE
SCALE per
Dollar Spent!**

VAPCO SCALE REMOVER

The activated acid in powder form containing inhibitor, wetting agent and algaecide for a COMPLETE cleaning job under the most severe conditions. Easy on galvanize—safe for equipment. Keeps head pressure down—efficiency UP! 10 and 50 pound drums with "Tel-Action" pH indicators.

VAPCO-HIB

Make your own cleaner with VAPCO-HIB. Added to muriatic acid, VAPCO-HIB increases the acid action, yet provides outstanding protection to metals including galvanize. Supplied in 8 and 32 ounce bottles and bulk.

Vapco
PRODUCTS

Complete literature on request or see your dealer TODAY!

**GARMAN
COMPANY**
ST. LOUIS 23, MO.

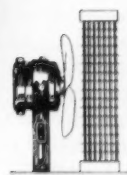
**COMPLETELY
INTERCHANGEABLE**

**NEW Redmond TYPE AM-4
WITH NEW SHORTER LENGTH**



Condenser Fan Motor
1½ Through 16 Watts

Your No. 1 Condenser Fan Motor for Replacement in the Air Conditioning and Refrigeration Fields



Stock One Motor to Accommodate All Mountings

1. The new AM-4 will replace all rear-mounting motors.
2. You can replace motors with peripheral mountings.
3. All-Angle Operation: designed for all-position mounting, vertical shaft up, shaft down, or any angle. Now you stock only one motor. The extra large oil reservoir is permanently sealed for lifetime lubrication—and guaranteed not to leak oil in use or shipment.



Redmond Distributors, Inc., Owosso, Michigan

REDMOND DISTRIBUTORS, INC.
Owosso, Michigan.

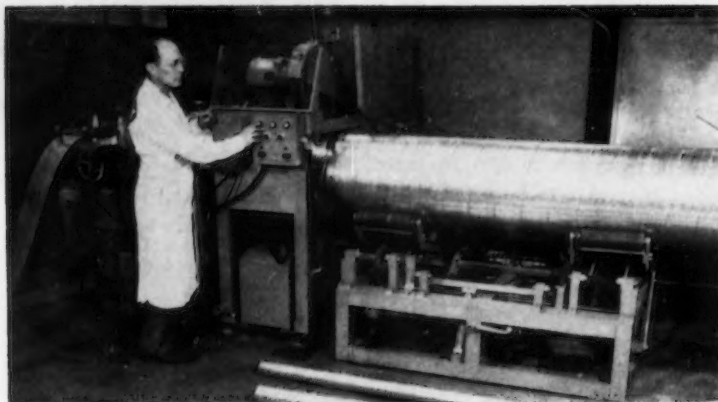
- ☐ Send me your new AM-4 catalog sheet.
- ☐ Mail me your 4-page catalog describing the complete line of Redmond motors, blowers, fan blades, replacement kits, and accessories.



NAME _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

Circle No. 101 on Reader Service Card

NEW UNIT MAKES DUCTS FOR LESS \$\$



MACHINE CUTS COST of making cylindrical air conditioning ducts used in multi-story buildings by as much as 20%, according to its manufacturer Carrier Corp. Air conduit from 3 to 24" in diameter is wound spirally from thin metal strip. The machine is half the size and one-tenth the weight of existing equipment. Desired lengths of duct are sliced off by a high powered saw without stopping production. One man can operate the machine from a small control panel.

CARRIER DEVELOPS NEW SERVICE CONTRACT

Carrier Corp. has developed a new type service contract for dealers and distributors. Divided into two parts, the program includes periodic inspection, emergency service, parts, labor, supplies, start-up and shutdown. The second part includes all features except parts and supplies.

The programs have been designated "Carrier Planned Overall Maintenance Service," and "Carrier Planned Inspection and Labor Service."

These plans are expected to increase working capital for dealers and distributors, year-round business, job security, sales leads, and adequate inventory of parts. The only heating units to be taken under contract are those which are part of a cooling system.

ACME INDUSTRIES HOLDS 20 TRAINING MEETINGS

An educational program aimed at air-conditioning engineers, contractors and servicemen in the U.S. and Canada is being conducted by Acme Industries, Inc. Designated "Acme Chillerama," the program includes 20 meetings.

Purpose of the program is to inform local representatives on the application, maintenance and use of Acme equipment.

The sessions will be conducted

by regional managers, sales engineers, and service personnel; with help from home-office engineers.

UNITED WIRE EXPANDS WAREHOUSE FACILITIES

United Wire & Supply Corp. has expanded its warehouse facilities in the south.

United will stock its complete line of copper water tube, types KLM and DWV, refrigeration tube, automotive tube, oil burner

tube, and packaged aluminum tube at Southeastern Bonded Warehouse, Inc., 651 Humphries St., SW, Atlanta, Ga.

This new warehouse will serve plumbing supply wholesalers in Virginia, North and South Carolina, Tennessee, Alabama, Georgia, Mississippi, Louisiana, Arkansas, and Florida.

Kirk Dornbush is resident manager of the warehouse.

BENDIX-WESTINGHOUSE BUILDS 3-PHASE UNITS

Bendix-Westinghouse Automotive Brake Co., Evansville Div. is now in production on 1, 1½, and 2-hp sizes in the full-hermetic, 3-phase condensing units and motor-compressors.

The condensing units are designed for general commercial applications such as milk coolers, meat cases, display cases, reach-in and walk-in coolers. The motor-compressors are available for air-conditioning applications on room coolers or central systems.

KEROTEST OFFICE MOVES TO NEW L.A. ADDRESS

Kerotest Mfg. Co., announces the establishment of the California sales office and warehouse at a new location—3151 E. 12th St., Los Angeles 23, Calif.

THEY LEARN THAT SERVICE COUNTS



IMPORTANCE OF SERVICE TO A CUSTOMER after equipment is installed was emphasized at the annual service school held by Kold-Hold Div. of Tranter Mfg., Inc. Conducted by the company officers, the school was attended by service and sales representatives. All phases of installation, service, maintenance and application of the company's line of truck refrigeration systems were covered during the two day school. D. F. Pillow, service manager, is shown conducting one of the sessions.

BREAK THE WIRING BOTTLENECK

Continued from page 64

kilowatts to kilovolt amperes. Power factor is always less than unity in induction motors. This is due to the fact that in such motors voltage and amperage are out of step.

While efficiency and power factor vary with load and other conditions, this table based on usual values is satisfactory for estimating horsepower capacity of conduit and wires.

Here is an example that will illustrate the practical application of this data sheet to an actual air-conditioner wiring problem.

A large apartment development constantly receives requests for permission to install room air-conditioners. To maintain the property in a desirable competitive position, these requests have to be granted.

Feeders from meter rooms to apartments in these buildings are three #6 type R wires in 1" conduit. These have a code listed capacity of 55 amperes. Reference to the table shows that for rewiring 1" conduit will accommodate three #4 type TW wires and that their capacity is 70 amperes. The 15 ampere additional capacity at 230 volts provides 15 x 230 or 3450 volt amperes (15 x 230) or 3.45 kva. A three wire single phase 115-230 volt single phase system is used.

From the apartment distribution panel, #14 wire circuits are carried in 1/2" conduit. The table shows the capacity of 1/2" conduit for rewiring to be two or

three #8 wires with 40 ampere capacity, four to six #10 at 24 amperes of eight #12 (four 2 wire circuits) at 14 amperes. Thus it can be seen that 1/2" conduits will carry one or more air-conditioning circuits in addition to the normal lighting and receptacle circuits.

It is often necessary to pull branch circuit wires only, as feeders commonly have some spare capacity. Load on main or branch circuits can be readily determined with a tong ammeter.

Additional load can often be carried by feeders when unbalance between the mains is corrected. This is accomplished by dividing branch circuits between feeder mains so that each main carries approximately half the load.

In the apartment development which provided these examples, it has so far been possible to accommodate all air conditioners requested with no surface wiring except extensions from existing outlets to air-conditioner locations. Tenants are charged for wiring cost.

Since these are high grade apartments, some expensively decorated, they would not have been conditioned had extensive surface wiring been required.

The code requires that motor circuits shall have a capacity not less than 125% of the full load rating of the motor they supply. Where two or more motors are supplied by the same conductors, capacity shall be not less than 125% of the full load current of the largest motor plus the sum of full load currents of all others supplied by the conductors.

Capacities listed are for room temperatures not exceeding 86 F. Higher temperatures are seldom en-

RUGGED CONSTRUCTION • QUIET OPERATION LOW SILHOUETTE • CORROSION RESISTANCE



Now — Master-Bilt gives you the durability of galvanized steel at black iron prices in this comprehensive line of cooling towers. Towers are delivered completely assembled, ready for piping and wiring. 15 through 50 ton models are bolted for easy disassembly, if necessary, and 3 to 10 ton models are all welded. For complete information, send coupon today.



MASTER-BILT

REFRIGERATION MFG. CO.

4209 FOLSOM AVE. • ST. LOUIS 10, MO.

at sensational low cost with

MASTER-BILT COOLING TOWERS

The Economical Line with a Wealth of Outstanding Features:

- Galvanized steel construction
- 10 models, 3 through 50 tons
- 25% more evaporative surface with removable heart of redwood decking
- Indoor-outdoor installation
- Inlet and outlet screens (as illustrated) and distribution pan cover.
- Quiet motor, mastic coated interior
- Completely assembled — easy to install

• • • • •

• MASTER-BILT REFRIGERATION MFG. CO. •

• 4209 Folsom Ave., Dept. CR •

• St. Louis 10, Mo. •

• Please send me complete information on Master-Bilt galvanized •

• cooling towers. •

• NAME •

• COMPANY •

• ADDRESS •

• CITY ZONE STATE •

• • • • •

This BROOK A.C. MOTOR is a Weather Profit!



Peak performance in all climates—humid or arid—high or low temperatures. You profit in any weather with this husky, totally enclosed, fan cooled BROOK MOTOR. Yet, it actually costs less than an ordinary, light duty motor. Slip Ring or Squirrel Cage type, 1 to 600 H.P., ready for shipment from warehouse stocks in major industrial centers. Send for brochure and name of your local Brook Dealer.

world's most respected motor

BROOK MOTOR CORPORATION

3553 W. PETERSON AVE., CHICAGO 45, ILLINOIS

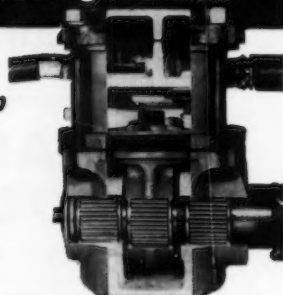


ACE, the quality line for air conditioning and refrigeration

MODEL 77

Diaphragm Descaling Acid Pump

Descaling compounds can't affect this pump! All parts in contact with compounds are completely acid-resistant. Can be supplied as portable unit with pump and motor mounted on sturdy base and with convenient carrying handles.



Plus a complete line of centrifugal pumps

... sized to fit your needs. 1/4 H.P. thru 10 H.P. Easy to install and compactly built. Advanced features include exclusive baked-on lifetime finish to enhance appearance and resist corrosion, John Crane mechanical seal, and all-bronze one-piece impellers. Continuous duty motor, 1750 rpm or 3450 rpm.

Orders shipped the SAME DAY received



PUMP CORPORATION

140 HERNANDO ST. • MEMPHIS, TENN.

Circle No. 105 on Reader Service Card

countered in air-conditioning applications. Where they are, allowable capacities are reduced by percentages listed in The National Electric Code.

Wire capacity, as listed in the code, is based on temperature rise caused by flow of rated amperage. For long runs, it may be desirable or necessary to use wires larger than required by the code to assure adequate voltage at all outlets. Voltage is lost in transmission. This can be minimized by using wires as large as the conduit will accommodate, within limits set by the code.

For conduit sizes larger than 2", the number and sizes of conductors can be such as to occupy 50% of the conduit area where three or more conductors are used.

REPRESENTS RECOLD

Kleinman Brothers, Inc., Baltimore, Md., has been appointed to represent Recold Corp. Headed by Henry Kleinman, the firm will distribute Recold air-conditioning and commercial refrigeration products in that area.

Remove Scale quickly and safely with **anco** Condenser Cleaner

You simply dissolve ANCO Condenser Cleaner in the sump while the system operates and within 2 to 15 hours the condenser tubes are cleaned. High head pressure from fouled tubes drops to normal. Operating efficiency is restored. ANCO Condenser cleaner will not damage metals and is not hazardous to handle. Try it once and you'll use it always.



Keep Cooling towers free of algae and slime with Anco Algaecide.

Protect condenser against rust, scale and pitting with ANCO Water Treatment.

For all ANCO products see your wholesaler or write direct.
SPECIALISTS IN MAKING WATER BEHAVE



Anderson

Chemical Company, Inc.

Box 1424 • Macon, Georgia

Circle No. 80 on Reader Service Card
REFRIGERATION & AIR-CONDITIONING

TRADE SHOW

Continued from page 57

exhibits or features also are broadcast over this system.

Manufacturers are sent invitations and detailed plans of the show. Those accepting are asked to fill out application blanks and then are supplied with logistical outlines to pin down last-minute details.

The nominal cost for each exhibitor is based on Proie's show budget. If this budget is exceeded, Proie pays the difference. If actual expenses are less than the budget, rebates are made to exhibitors.

Each supplier furnishes his own display, personnel to handle the exhibit, and literature.

"We try not to overlook anything" Baime points out. "Our aim is to make it as easy as possible for suppliers to participate. All dealers have to do is come."

A special P. S. is added to all letters of invitation. It reads as follows:

"Because Products Parade is an educational program for our deal-

ers and we believe strongly in its value, we want your company represented. If you have any objections or company policy which might not let you participate, let us know. We'll take care of all costs and you can come in free of charge. We do not want to exclude any of our major suppliers because of the nominal charges. We make money selling your products . . . not space!"

BOOK REVIEW

Title: Flow and Fan, 232 pages.

Author: C. Harold Berry

Publisher: The Industrial Press, New York, N.Y.

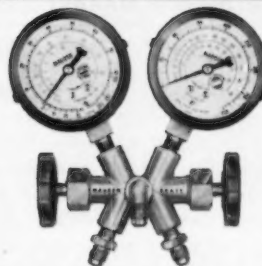
Price: \$4.00

Basic calculations in the design and application of ventilating systems. Includes two major divisions: the flow of gas through ducts, and fan performance and control.

Written for student and practical use, the book includes elementary considerations and elaborate discussions.

The text is based on notes compiled by the author while he lectured at Harvard University to students interested in ventilation to reduce industrial hazards or to promote comfort.

Circle No. 107 on Reader Service Card



NEW MADDEN CHARGING AND TESTING MANIFOLD

For testing and purging both high and low sides. Helps servicemen find trouble quickly. Features Teflon seat, and requires only light hand pressure for positive shut-off.

Plus our complete line of Wimco Tools: flare tools, tube benders, tube cutters, bending springs, etc.

SEE YOUR MADDEN WHOLESALE

MADDER BRASS PRODUCTS COMPANY
AURORA 2, ILLINOIS, U.S.A.
EXPORT: Ad Aurora 85 Broad St., New York, N. Y.

Acme
INDUSTRIES, INC.
JACKSON, MICHIGAN
manufacturers of
QUALITY
air conditioning
and refrigeration
equipment since 1919



NEW Acme FLOW-PAC[®] packaged liquid chillers

Compact, simple to install and operate, these new Flow-Pac chillers are ideal for residential and small commercial cooling requirements. Complete copper liquid circuit makes them perfect for chilling drinking water or process liquids that steel coils can't handle. Available in air or water cooled types from 1¼ to 5 hp.

'Phone or write Acme for details

ICE MAKER MARKET

Continued from page 61

ments has been to avoid large central ice plants, and instead to locate automatic ice machines at the point of use. For patients' drinking water a long lasting cube is required. Crushed ice is used extensively in the diet kitchens and serving areas, and also for ice packs, oxygen tents and surgery.

Poultry, fish and seafood processors. Crushed ice is widely used for fast chilling and proper cooling to meet sanitation requirements. It is also necessary to maintain moisture content in the product and to guard against excessive loss of weight.

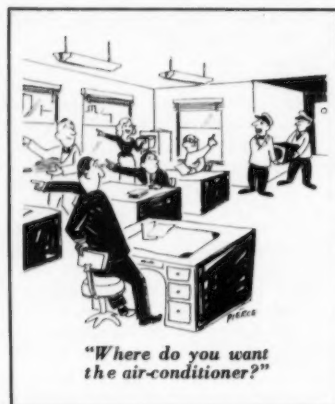
Butchers. Crushed ice is used in sausage making during the chopping of meat, so that bacteria will not grow. Chopping knives take on heat during the processing. Ice is used to offset this heat so it will not sear the meat.

Bakers. Crushed ice is included in dough mixtures to hold down the temperature of the dough and to keep yeast inactive. This also assures proper moisture content in finished baked goods.

Food stores, super markets. Most food stores use crushed ice for display of green vegetables and produce. The most popular and attractive use is for bedding in the produce rack. This maintains temperatures and moisture content, and absorbs by-product gases. These same advantages apply to iced displays of meat and meat products. With iced displays, it is also possible to leave produce in the racks overnight. With the increasing volume of take-home soft drink purchases at super markets, many stores are offering bags of ice cubes as a natural tie-in.

Other uses. *Dairies and milk plants*, for cooling and delivery of milk products. *Wholesale and retail florists*, for cold shipment, display, and delivery of flowers and floral decorations. *Laboratory and research centers*, for small lot cooling (crushed ice is more economical than mechanical refrigeration, and has the added advantage of being portable). *Service clubs and post*

exchanges, for cooling of beverages. *Transportation companies*, for beverages and food services. *Resorts and camps*, for a ready ice supply even though miles away from the nearest iceman. *Fishing docks and resorts*, for quick cooling and safe transportation of freshly caught fish. *Schools and colleges*, for cold beverage and food services. *Churches*, for food services and social events. *Catering services and implant feeding operations*, for food and beverage service. *Department and variety stores*, for employee



feeding, lunch counters and fountains. *Bowling alleys and amusement parks*, for beverage service. *Petroleum pipelines*, for the transporting of chilled water over great distances by pipeline crews. *Bottling companies*, for miscellaneous cooling purposes.

(Much of the material contained in this article was drawn from a booklet on "How To Use an Ice Machine" prepared by Scotsman-Queen Products, Inc.)

9 NEW FIRMS NAMED TRANE CO. OUTLETS

Nine new firms have been appointed authorized sources of Trane Co. package air conditioning equipment. They are: Cooling Enterprises, Inc., Heights Electric & Engineering, Wyant Engineering Service Co., Conditioning Service Corp., and Apex Air Conditioning Corp., all of New York City;

Midway Heating & Air Conditioning Co., Inc., Marietta, Ga.; Parker Heating & Air Conditioning Co., Atlanta, Ga.; Hall Sheet Metal Co., Claremore, Okla.; and Scranton Electric Construction Co., Inc., Scranton, Pa.

DOUBLE-DUTY RINK

Continued from page 70

pipe loops are stored in a 3'-deep block trench next to the rink.

The rink's refrigeration system uses a total of 3700 gallons of brine, which is circulated through the plastic tube at 35 pounds pressure. Some 2640 gallons of brine remain in the pipe loops when they are stored. Each loop, including brine, weighs only about 110 pounds, so handling is no problem.

The plastic pipe has a 1" inside diameter and a wall thickness of only 1/10". It is rated at 65 psi at 75 F and 125 psi at 5 F, well in excess of designed working pressures.

Its molecular properties minimize side sway and creep. Inner walls are glass smooth, which reduces friction and lessens pumping problems.



KEEPING PENGUINS COOL is the job of this Dunham-Bush unit cooler installed at the Zoological Garden of Basel, Switzerland. The unit cooler must maintain a constant temperature of 8 C for the proper care of the birds.

BUENSOD-STACEY NAMES DETROIT SALES REP

Dual-duct air mixing equipment for commercial and industrial air-conditioning systems will be handled in the Michigan area by Fontanesi & Kann Co., it has been announced by Buensod-Stacey, Incorporated.

Fontanesi & Kann, Detroit, is the 48th sales representative to be named throughout the nation by Buensod-Stacey.

- Leak Detecting
- Soldering • Heating
- Brazing



PREST-O-LITE
TRADE-MARK
**Refrigeration
& Air-Conditioning
Outfit**

SENSITIVE LEAK DETECTION

JOB-MATCHED OPEN FLAMES

EASY TO USE

AUTOMATIC CONTROL

Outfit includes torch handle, leak detector stem, 3 torch stems, regulator, 12½-ft. hose assembly, suction hose, and enameled steel carrying case. Complete (for B or MC Tank), \$41.00.

Available for immediate delivery from your local supplier of LINDE products. Or write for further information to LINDE COMPANY, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y.



"Linde," "Prest-O-Lite," and "Union Carbide" are registered trade-marks of Union Carbide Corp.

Circle No. 108 on Reader Service Card
BUSINESS • MAY 1958

OPPORTUNITIES

(Classified Advertising)

Rates: for "Positions Wanted," \$4.50 minimum, limit 25 words. For all other classifications, \$8.00 minimum for 25 words or under, each additional word 20¢. Boldface type or all capitals, \$10.00 minimum for 25 words or under, each additional word 25¢. All classified advertising payable in advance.

BUSINESS OPPORTUNITY

HEATING & AIR-CONDITIONING CONTRACTING FIRM FOR SALE
Established, franchised Dealer on Florida's Gold Coast—Top brand equipment. Complete installation & service facilities, trained personnel, all necessary equipment and inventory. Yearly gross, \$200,000. Asking \$35,000. Box 5158, REFRIGERATION & AIR-CONDITIONING BUSINESS.

MARLO COIL MOVES PLANT

A new one-story building with 120,000 square feet of office and production space has been put in operation by Marlo Coil Co.

Located at 7100 South Grand Blvd., St. Louis, Mo., the entire structure is air-conditioned with newly-developed Marlo roof-top units for heating and cooling.

FREE!

[illegible]

the only
CAPILLARY
reference GUIDE
for the industry



The trend for economy and efficiency is engineered Capillaries. By all laws of refrigeration and physics demand a custom designed Capillary

A Sealed Unit Guide will help you order the right Capillary for the job!

Sealed Unit Parts Co., Inc.
h St. • New York 60, N.Y.

Send CAPILLARY Guide and prices

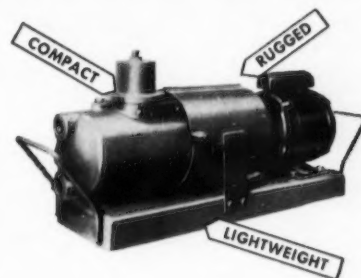
Name _____ City _____

Address _____ Zone _____ State _____

Circle No. 110 on Reader Service Card

for
DEHYDRATING
and
TESTING...

BEACH-RUSS *Portable* VACUUM PUMPS



Beach-Russ Portable Vacuum Pumps are designed *specifically* for dehydrating and testing refrigeration and air conditioning units. These high performance, quiet operating, portable pumps are available in two sizes:

- **Model A Two-Stage Pump**— $\frac{1}{10}$ mm. vacuum, blank flange, 2.5 cfm, $\frac{1}{8}$ HP, weight 80 lbs.
- **Model O Single-Stage Pump**—1 mm. vacuum, blank flange, 1 cfm, $\frac{1}{8}$ HP, weight 48 lbs.

Beach-Russ Vacuum Pumps are also made in types and sizes for evacuation and testing of refrigeration equipment on a production basis.

BEACH-RUSS COMPANY

50 Church St., New York 7, N.Y. Dept. 56

Send descriptive literature covering

- ☐ Model O Single-Stage Vacuum Pumps
- ☐ Model A Two-Stage Pumps

Name _____

Company _____

Address.....

City..... Zone..... State.....

BEACH-RUSS CO.

50 Church St., New York 7, N. Y.

Circle No. 109 on Reader Service Card

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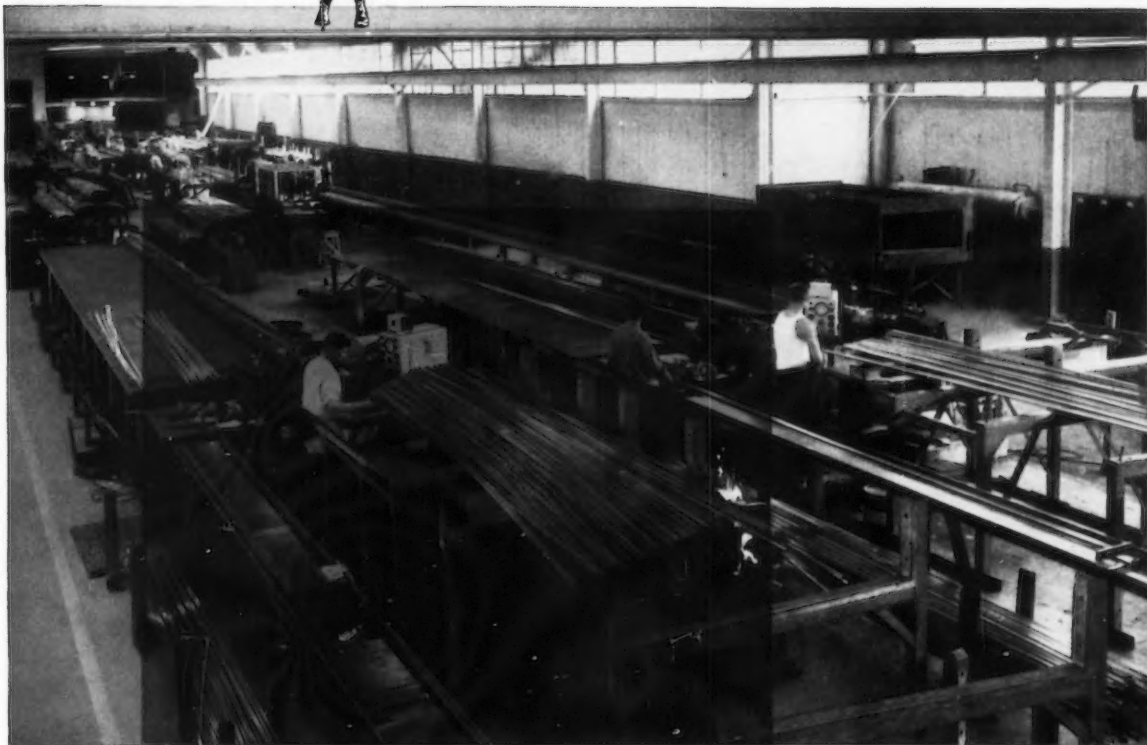
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